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**Towards A Post Interventionist Strategy For The Legal
Regulation Of The Environment**

By

David John Schneider

A thesis submitted to
the Faculty of Graduate Studies and Research
in partial fulfillment of
the requirements for the degree of

Master of Arts

Department of Law

CARLETON UNIVERSITY
Ottawa, Ontario

18 December 1998

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submitted by David John Schneider, B.A., B.A. (Hons.)

in partial fulfillment of the requirements for

the degree of Master of Arts

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Abstract

The traditional Canadian legal response to the need for environmental protection has taken the form of an ever expanding body of substantive law and regulation. While useful in certain situations, substantive law strategies frequently fall short of their objectives. This thesis examines the difficulty of achieving effective environmental regulation within the “general disenchantment with the goals, structure and performance of the regulatory state.” It is posited that a fundamental reason for the ineffectiveness of the current approach is the unstated assumption that law is able to exert a close, direct and linear influence over other societal subsystems in order to effect desired behavior. On a theoretical level, Gunther Teubner’s explanation of the rationalities that underwrite the evolutionary stages of legal development in modern society is used both to illustrate the trajectory of environmental law and to suggest a new reflexive approach that offers enhanced regulatory potential. On a practical level, the concept of responsive regulation, as developed by Ian Ayres and John Braithewaite, is incorporated to assist in pointing to a new direction for Canadian environmental law.

Appreciating law’s own limitations as well as the inherent self-referential quality of differentiated social subsystems, reflexive law restricts itself to prescribing procedures for regulated entities to follow rather than dictating legally acceptable behavior. The theme of this paper is that it is only by understanding law’s limits in a complex, modern society can we begin the search for more effective regulatory alternatives.

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Chapter 1 Introduction

"One of the most pressing issues confronting modern industrial man is his concern over the natural environment. Contaminants of one sort or another enter the air and water and are deposited on the land. Our lakes and forests are dying. Our scientists warn us that we must exercise better management over the only planet in our universe on which life, as we know it, exists, or civilization itself will be threatened."¹

Dramatic disasters such as Bhopal and Chernobyl brought environmental danger to the fore of the global consciousness. In Canada, the clear cutting of old growth forests, the Hagersville tire fire and the Hamilton Plastimet fire are among the many environmental events that have captured the national news spotlight.² Recent newspaper headlines such as: "Hydro Admits Lack of Respect for Environment,"³ "Canada 'Outspews' the U.S. - Average Plant Here Pollutes Twice As Much"⁴ and "Smog Smothers Ontario, Air Pollution Readings Skyrocket in Capital"⁵ emphasize our declining environmental quality. Unfortunately, the tendency of the media to conceptualize environmental problems in their physical form, such as toxic waste, acid rain, air pollution and so on, focuses attention only on the physical manifestation of environmental damage while ignoring issues relating to causality and prevention.

In Canada, both the federal and provincial governments enjoy constitutional authority to regulate with respect to the environment.⁶ The effectiveness of government

¹ R. v. Lopes (unreported, November 5, 1986, Ontario Provincial Court) as cited in Diane Saxe, Environmental Offenses, Corporate Responsibility and Executive Liability (Aurora: Canada Law Book, 1990) 1.

² See Appendix 1 for a sampling of environmental events in Ontario within the last year.

³ Sharon Kirkey, The Ottawa Citizen July 9, 1997, p.A1

⁴ Charles Enman, The Ottawa Citizen July 29, 1997, p.A1

⁵ Tom Spears, The Ottawa Citizen May 29, 1998, p.A1

⁶ Paul Emond, "The Case for a Greater Federal Role in the Environmental Protection Field: An Examination of the Pollution Problem in the Constitution" (1972) 10 Osgoode Hall Law Journal 647; Dale Gibson, "Constitutional Jurisdiction Over Environmental Management in Canada" (1973) 23 University of Toronto Law Journal 54; Roderick M. McLeod, "Key Environmental Issues for the 1990s and Beyond in Canada" (1992) 18 Canada-United States Law Journal 23.

efforts in this area is the subject of debate among government officials, administrative agencies, non-governmental organizations from both the pro-environment and business sectors as well as the public at large. The purpose of this paper is to make a creative contribution to this debate by proposing a new attitude towards the role of law in protecting the environment.

As we approach the millennium there is a universally increasing level of anxiety about stratospheric ozone depletion, global warming, habitat degradation, acid rain, toxic chemical contaminants and hazardous waste management among many other urgent environmental issues in need of comprehensive and coordinated action.⁷ Concern for the environment has been an enduring and widespread feature of Canadian public opinion since the early 1970s.⁸ Initially the focal point of concern was on local matters such as litter, odors, noise, lack of public green space and water quality issues like phosphates in the Great Lakes. Gradually, attention has shifted from local to national and transboundary issues, and correspondingly, from aesthetics to human health concerns.⁹ The environment has undergone a transformation from an issue of public trust into one of survival. Writing in 1990, Donna Tingley, the Executive Director of the Canadian Environmental Law Center in Edmonton, Alberta noted that one in three Canadians considered the environment to be the most pressing issue in the country compared to one in ten in 1989

⁷ The catalogue of potential environmental ills is too lengthy to set out in detail; for further reference, see: World Commission on Environment and Development, Our Common Future (New York: Oxford University Press, 1987); see also Kent Portnoy, Controversial Issues in Environmental Policy (Newbury Park: Sage Publications, 1992) at 2-13 and Richard D. Lindgren and Donna Bigelow, Overview of Federal Law, Regulation and Policy (Toronto: Canadian Environmental Law Association, 1996).

⁸ Doug Miller, Whither Environment? Public and Expert Opinion Projected to 2010 (Toronto: Synergistics Consulting, 1996) 2.

⁹ *Ibid.* at 3.

and one in twenty in 1988.¹⁰ Results of the most recent polling commissioned by Environment Canada indicate that more than nine in ten Canadians now express anxiety about the state of Canada's environment.¹¹ Increasing human health concerns and a perceived lack of progress by governments and business corporations are expected to heighten public apprehension about the state of the environment within the next few years.

This anticipated new wave of environmentalism means that governments at all levels are under mounting pressure to respond. The crucial question underlying government response to the public demand for effective environmental protection is the form it should take. In other words, will continuous incremental changes to the existing regulatory model of environmental protection adequately address the challenge presented not only by complex current problems but also by future, potentially even more intractable problems?

This situation is a catalyst for questioning traditional approaches to legal regulation. There is a debate between those who support strong government regulation and those who favor a move towards deregulation.¹² There is also a debate between those who would respond to environmental harm with penalties and sanctions and those who advocate harnessing the economic self-interest of potential transgressors.¹³ Within the

¹⁰ Donna Tingley, "Responding to the Challenge: An Overview of Significant Trends in Government Regulation" in Donna Tingley (ed.) Into the Future. Environmental Law and Policy for the 1990s (Edmonton: Environmental Law Center, 1990) 11.

¹¹ Insight Canada Research, A National Public Opinion Survey of Current Environmental Issues (Toronto: Insight Canada Research, 1996).

¹² Ian Ayres and John Braithwaite, Responsive Regulation: Transcending the Deregulation Debate (New York: Oxford University Press, 1992) 3.

¹³ Robert Howse, "Retrenchment, Reform or Revolution? The Shift to Incentives and the Future of the Regulatory State" (1993) 31 *Alberta Law Review* 454 at 457.

contours of these debates, critics from the Left point to the gap between expectations and results of government policies while the Right resents the growing intrusiveness and associated costs of government policy instruments.¹⁴

Increasing numbers of observers specifically comment on the tendency for regulatory authorities and governments to move between policies of deregulation and what is referred to as traditional command and control regulation. Governments are subject to criticism, either for shirking their environmental responsibilities or for unnecessarily constraining enterprise. Some commentators ask whether either of these regulatory moves is viable and in particular, they question the form and limits of the legal regulation of economic enterprises. It is being said that the traditional approach taken by business and government to the relationship between environmental regulation and the goal of maintaining growth and prosperity is now thoroughly out of date.¹⁵ It is also suggested that traditional forms of regulation produce a fundamental misunderstanding of the potential effectiveness of any form of legal regulation.¹⁶ Consensus exists only for the necessity of transcending the debates between regulation and deregulation and between rules and incentives.¹⁷

The immediacy and potential magnitude of environmental dangers together with the awareness of the failings of command and control regulation has spurred a search for

¹⁴ Fazil Mihlar, Regulatory Overkill: The Cost of Regulation in Canada (Vancouver: The Fraser Forum, 1996).

¹⁵ Ted Schrecker, Sustainable Development: Getting There From Here (Ottawa: National Round Table on the Environment and the Economy, 1993) 65.

¹⁶ See Gunther Teubner, Lindsay Farmer and Declan Murphy (eds.), Environmental Law and Ecological Responsibility (Rexdale: John Wiley & Sons, 1994).

¹⁷ Supra footnotes 12 and 13.

a new conceptual basis for environmental regulatory policy.¹⁸ Two of the most sustained and promising strategies for this new conceptual basis are the theory of “reflexive law”¹⁹ as developed in the work of Gunther Teubner and the concept of “responsive regulation”²⁰ formulated by Ian Ayres and John Braithwaite. Although these approaches differ in their starting points they share a recognition of the limited capacity of law to alter existing patterns of behavior. This insight is supplemented by the knowledge that regulation by law is only one of many regulatory mechanisms for human activity and it must therefore integrate with and attempt to enlist some of these other mechanisms.

A milestone in the history of dealing with environmental issues occurred in December of 1983 when Dr. Gro Brundtland, then Prime Minister of Norway, was requested by the Secretary General of the United Nations to chair a commission to “propose long term environmental strategies for achieving sustainable development by the year 2000 and beyond.”²¹ The principal conclusion of the Commission’s final report stressed the necessity of integrating economic and environmental considerations in decision-making.²² The challenge at this point in the debate concerning environmental regulation is to identify and make use of a wider range of mechanisms for implementing such an approach, that is, one that truly integrates environmental concerns and economic decisions. The theme of this thesis is that the ideas advanced by Teubner and by

¹⁸ Lindsay Farmer and Gunther Teubner, “Ecological Self-Organization” in *supra* footnote 16, 3 at 3-5.

¹⁹ Gunther Teubner, “Substantive and Reflexive Elements in Modern Law” (1983) 17 *Law and Society Review* 239.

²⁰ *Supra* footnote 12.

²¹ *Supra* footnote 7, World Commission on Environment and Development at ii.

²² *Ibid.* at 62; see also Mohan Monasinghe, Environmental Economics and Sustainable Development, World Bank Paper #3 (Washington: World Bank, 1993) 7.

Ayres/Braithwaite hold the potential for the integration of the environmental with the economic. It is important to note that these strategies are legal models that, according to Teubner, can only be tested “by being institutionalized and scrutinized through scientific discourse, legal doctrinal controversies, conflicts of social movements and by institutional decisions.”²³

There is an incipient awareness of the possibility of adopting such an approach. The introduction of the European Eco-Management and Audit Scheme²⁴ and the more recent unveiling of the International Organization for Standardization 14000 series²⁵ are examples of the broadening of the horizons of thought about innovative approaches to environmental protection. Both measures exhibit characteristics common to responsive regulation and reflexive law in that they are procedurally oriented rather than substantive in character.

This paper is in seven parts. Following this introduction, the second part offers a detailed critique of the use of command and control regulation in our environmental law regime with special emphasis on the phenomenon of personal liability for corporate directors. Although this type of liability is not an inherent component of command and control regulation it is increasingly relied upon as a compliance mechanism. The significance of this analysis is that it highlights several basic flaws in the traditional approach. First, it draws attention to the extent to which it is the system of command and

²³ Gunther Teubner, “The Transformation of Law in the Welfare State” in Gunther Teubner (ed.) Dilemmas of Law in the Welfare State (New York: Walter De Gruyter, 1986) 299 at 303.

²⁴ Council Regulation (EEC) No. 1836/93 of 29 June 1993 allowing voluntary participation by companies in the industrial sector in a Community eco-management and audit scheme.

²⁵ International Organization for Standardization, ISO 14000 Series, “Environmental Management Series - Specifications.”

control regulation that is problematic rather than particular acts or regulations. Extensive reliance on finely detailed, comprehensive, micro-regulation of all potentially environmentally harmful activities draws attention to the fact that there are limits to legal regulation. In cognitive terms, as the volume of environmental statutes and regulations grows it becomes correspondingly difficult, if not impossible, for both regulators and regulated entities to maintain a working knowledge of current law. The Ontario Environmental Protection Act²⁶ alone has more than 800 pages of associated regulations.²⁷ Administratively, the expansion of environmental law necessitates a commensurate increase in bureaucratic personnel to inspect, investigate, issue warnings and pursue legal remedies. This strains the capacity of both environmental regulators and the judicial system to effectively deal with the mass of regulation and concomitant adjudication. A second problem is that the inherently static nature of this regulatory style is ill-suited to address many fast paced contemporary environmental problems. Closely associated with this idea are the difficulties encountered when using law to regulate science. Historically, wrongful conduct and resulting damage have been contemporaneous and therefore a relatively obvious causal nexus between the two has been easily demonstrable. However, the newly recognized, sometimes poorly understood and usually complex problems of environmental damage frequently obscure this connection. This occurs because the scientific evidence necessary to assess the environmental risk of many activities, such as the effect of pesticide on human health, is unavailable or uncertain. The legal burden and

²⁶ Revised Statutes of Ontario, 1990, chapter E.19.

²⁷ Dennis H. Wood (ed.), McCarthy, Tetrault Annotated Ontario Environmental Statutes and Regulations (Toronto: Carswell, 1994).

onus rules of quasi-criminal environmental prosecutions under a command and control regime are ill-suited to address environmental damage which may occur years after the probable cause or which may result from the synergistic effects of multiple sources.

The inextricable link between economics and the environment demands a balanced approach to environmental regulation. Overemphasis on one sphere inevitably creates difficulties in the other. Historically, the importance accorded to economic development is one reason for the gap between environmental law as written and as practiced. Environmental law tends to be drafted in terms of stringent prohibitions but its enforcement is frequently subject to negotiation between regulatory agencies and transgressors. Attempting to close this gap by resorting to personal director liability as a regulatory compliance mechanism produces problems in the economic sphere. Lastly, information is an important commodity in environmental decision-making therefore cooperation among all those involved in the regulatory process should be encouraged to promote its dissemination. The adversarial grounding of traditional regulation produces competition or at best, a grudging cooperation between regulators and regulated entities and thus inhibits the free flow of information.

The next part of the paper examines the idea of exploiting the allocative efficiency of the market as an alternative to command and control environmental regulation. It is argued that although the concept of market-based regulation enjoys support from many quarters of the academic community, notably economists, its potential usefulness is limited by serious design and implementation problems. Additionally, using the market to

internalize the environmental cost of economic activity has politically unacceptable consequences.

Part four sets out Gunther Teubner's theory of reflexive law. This provides a background to analyze the Ayres/Braithwaite conception of responsive regulation, to identify the similarities between the two approaches and to note the possibility of a new direction for environmental law. The basic idea is that society as a system becomes more complex as it "differentiates" or develops greater numbers of semi-autonomous subsystems. Each societal subsystem - law, politics, economics, religion, family life, science, education and so on - produces its own specialized discourse. This presents a challenge to the traditional dominant role of law as a central integrating institution. In particular, it restricts the effectiveness of legal forms of external regulation of other subsystems. Reflexive law, as a theory, offers the potential of a new strategy for regulating social problems like environmental protection. Instead of using increasingly detailed micro-regulation to influence behavior within other societal subsystems, reflexive law aspires to promote the creative, critical and continual self-reflection of other subsystems so that change is internal and voluntary rather than external and forced. In other words, reflexive legal strategies are procedural as opposed to substantive and concerned with the form of regulation rather than its substantive content.

The fifth part identifies the emergence of reflexive elements in current environmental regulation. The European Eco-Management and Audit Scheme and the International Organization for Standards ISO14000 series are presented as examples of the deliberate introduction of reflexive legal strategies into the realm of environmental regulation.

Part six of the paper takes up the challenge of presenting a model of reflexive environmental law for Canada. There are two relevant themes to any attempt to develop a more efficient environmental protection regime. The first is that incremental change to the current command and control approach has reached its limit. The second is that the focus for reform should be on procedural regulation, that is influencing how decisions are made, as opposed to dictating the substantive content of decisions. “Procedural” in this sense is not to be confused with procedural law. As Teubner warns, the term “proceduralization of law” is subject to misunderstanding. It does not entail replacing substantive legal norms with an exclusive reliance on procedural law. Procedural regulation has its own substantive premises and consequences. Proceduralization of law means the process of producing and justifying legal norms must have a “socially adequate proceduralization.” That is, legal norms must take account of law’s new challenges in a complex modern society. The goal of reflexive law is “to regulate through decentralized mechanisms of self-regulation that focus on contextual conditions.”²⁸ The proposal in this part is therefore directed at enhancing the effectiveness of decision-making by making decision-makers more self-reflective and self-critical about the environmental consequences of their decisions.

The paper concludes by summarizing the rationale for a change in our attitude with respect to our current approach to environmental regulation. The argument is not that law should be asked to perform a new role but rather that it should adopt a new attitude towards performing a traditional role.

²⁸ Gunther Teubner, Law As An Autopoietic System, (Oxford: Blackwell, 1993) 66-67.

Chapter 2 The Traditional Approach and the Limits of Incrementalism

Traditional command and control environmental regulation has generated a large body of critical literature with sources ranging from studies conducted under the auspices of the Economic Council of Canada¹ and government authored position papers² to independent contributions from non-governmental organizations representing both the pro-environment³ and pro-business constituencies.⁴

Inefficiency and expense are the two principal criticisms of this regulatory style. One of the earliest Canadian evaluations of command and control environmental regulation concluded that government efforts were “inadequate and ill-informed” and specifically cited the lack of clearly stated objectives, the failure to provide regulators with necessary practical information, funding and staffing, and the inconsistency of enforcement policies.⁵

A 1990 assessment indicated that after more than twenty years of environmental regulation still very little was known “...about the policy and implementation records. Data on monitoring, testing, enforcement, costs and benefits, natural stock and so on, remains thin, or where available, extremely unreliable and user unfriendly.”⁶

¹ Andrew R. Thompson, Environmental Regulation in Canada: An Assessment of the Regulatory Process (Vancouver: Westwater Research Centre, 1980).

² Ontario Ministry of Consumer and Commercial Relations, Interim Report of the Red Tape Review Commission (Toronto: Ministry of Consumer and Commercial Relations, 1996).

³ Peter Z. R. Finkle and Alastair R. Lucas (eds.), Environmental Law in the 1980s: A New Beginning (Calgary: Canadian Institute of Resources Law, 1982).

⁴ Fazil Mihlar, Regulatory Overkill: The Cost of Regulation in Canada (Vancouver: The Fraser Institute, 1996).

⁵ Supra footnote 1 at 5.

⁶ Tom Conway, “Taking Stock of the Traditional Regulatory Approach” in G. Bruce Doern (ed.) Getting it Green (Scarborough: McGraw-Hill Ryerson Limited, 1990) 25 at 26.

Another perspective on the shortcomings of the command and control approach to environmental regulation categorizes its problems as either “up-front” or “back-end”. An important “up-front” difficulty is that many pollution control standards have been established on the basis of political and socio-economic compromise rather than on the basis of environmental protection or ecosystem health. “Back-end” difficulties include lack of effective enforcement and insufficient penalties. Enforcement of environmental regulatory standards has always been problematic due to the relatively small number of trained government inspectors and investigators. Insufficient penalties often reflect a lack of political will stemming from socio-economic realities. One writer points out that even if strict regulatory standards are set enforcement is frequently tentative or diluted. For example, there have been relatively few Canadian prosecutions against pulp mills for pollution violations because the mills tend to be located in small communities where they are the principal employer. Rather than seeking strict enforcement of standards which could result in the mill’s closure, government officials historically are more likely to negotiate compliance schedules.⁷

Recent writing focuses on the economic impact of regulatory regimes generally, noting that “[g]overnment regulation is everywhere and growing,”⁸ creating an increasing financial burden for businesses at a time when they are trying to reduce costs in order to remain competitive in the global marketplace. The economic impact of regulation extends

⁷ David VanderZwaag, Canada and Marine Environmental Protection (Cornwall: Kluwer Law International, 1995) 425-426.

⁸ Supra footnote 2 at 1.

beyond a corporate balance sheet. When firms make the decision to locate or to expand, the cost, or even the perceived cost of regulations may drive them to other jurisdictions. This flight of investment capital means jobs are lost and potential new jobs are not created. Regulation entails costs for government as well. Significant expense is involved in the maintenance of administrative agencies to set, monitor and enforce standards. Incurring these administrative costs also frustrates government attempts to do more with less as the need to eliminate deficits becomes more urgent.⁹ The command and control regulatory approach is becoming increasingly incompatible with global competitive capitalism. While this does not justify “a race to the bottom” in terms of environmental protection as some environmentalists fear, it does point to the necessity of developing new attitudes towards achieving more efficacious legal regulation of the environment.

Other areas of critical examination include the proliferation of environmental regulation which emphasizes the cognitive and administrative limits of the traditional command and control approach, the static nature of command and control regulation which restricts its efficacy in the dynamic field of environmental regulation, the problems inherent in using law to regulate science, and the growing gap between “black letter” environmental law and its practice. An important and relatively recent area of critical attention is the expansion of liability for environmental damage to include directors of corporations in their personal capacity.¹⁰

⁹ Ibid.

¹⁰ Insight Press, Corporate Directors on the Firing Line (Mississauga: Insight Press, 1991).

There are two principal categories of regulation.¹¹ The first, often referred to as “early,” “old style” or “economic regulation” represents government oversight of entry, exit, output and price in specific industries or economic activities. These industries and activities are usually affected with a public interest, such as transportation, telecommunications and banking. In contrast, “new,” “new style” or “social regulation” is concerned with attaining social goals with respect to health, safety, environmental quality and related issues such as equality of opportunity in education, employment and housing. Economic and social regulation are distinguishable on many levels but a principal difference is that economic regulation tends to target specific industries or economic sectors and is often undertaken at the request of an industry for the purpose of protection from competition. Social regulation, on the other hand, cuts across economic sectors and is undertaken in response to public demand. Generally it is imposed on industry.

Decisions in a regulatory regime involve a two step process: the first step is deciding whether or not to intervene in a particular economic or social activity, and the second step is deciding what instruments to use to implement a decision to intervene. In terms of environmental regulation both the government and the general public have regarded deregulation, that is revoking the decision to intervene, as too dangerous to merit serious consideration. The debate therefore focuses on the second order decision, that is, deciding what policy instruments are most effective in particular circumstances.

The policy instrument debate pits the directives model against the incentives

¹¹ For a general discussion of regulatory form see Brian J. Cook, Bureaucratic Politics and Regulatory Reform (Westport: Greenwood Press, 1988).

model. The directives model seeks to control behavior by producing specifications, directions and prohibitions in the form of comprehensive rules and standards. The rules and standards are then monitored by governmental agencies for compliance. Non-compliance leads to penalties and fines for the transgressors. This approach has become known as “command and control” regulation and is commonly associated with social regulation. Under the incentives model, regulated parties are encouraged to alter their behavior through economically oriented arrangements. The regulator structures a system of positive incentives (subsidies) or negative incentives (charges) to induce behavioral changes consonant with the desired public policy. Since these arrangements “mimic” the market they are referred to as market-based or market-oriented approaches.

This section provides a brief history of the development of the traditional command and control approach to regulation in Canada together with a review of some of the chief criticisms of this regulatory style. The problems associated with altering behavior through command and control regulation of environmental issues form the basis for consideration of market oriented systems as an alternative or complement to the traditional approach.

A. The Development of Command and Control Regulation in Canada

Our traditional mode of legal response to environmental problems can be attributed to our dominant societal values. In Canada, as in other Western democracies, we tend to measure progress in terms of economic growth and place great faith in science

and technology and a society ruled by law. Environmental degradation is the natural consequence of scientifically assisted economic activity directed towards growth. When the environmentally damaging effects of such activity become worrisome, society looks to its elected representatives for redress through law. This scenario has produced a body of environmental law that is essentially reactive in character. Problems are addressed only as they arise and solutions tend to be devised on an incremental basis.¹² Typically, the chronology of an environmentally harmful situation begins with identification of the problem, often by the scientific community; subsequently, debate ensues over the nature and extent of the problem; this leads to negotiation over the issue of costs; lastly, there is some form of government action, taken either under an existing statute, or by the promulgation of a new law or regulation tailored to the specific problem.

As indicated, in Canada both the federal and provincial governments have the constitutional authority to regulate the use of the environment.¹³ Consistent with our dominant social values and the historically reactive nature of environmental policy both levels of government have adopted a “command and control” regulatory approach to environmental issues. In this system government regulations with respect to permissible technologies, production processes and pollutants act as “commands.” “Control” is achieved by obtaining compliance with these requirements. The Ontario Environmental

¹² One notable exception to the history of reactive legislation is Ontario’s Environmental Assessment Act (Revised Statutes of Ontario, 1990, chapter E.18) which requires a prospective view of the potential environmental affects of certain defined projects. However, weak enforcement policies have led critics to refer to it as the “Environmental Exemption Act”.

¹³ Paul Emond, “The Case for a Greater Federal Role in the Environmental Protection Field: An Examination of the Pollution Problem in the Constitution” (1972) 10 Osgoode Hall Law Journal 647; Dale Gibson, “Constitutional Jurisdiction Over Environmental Management in Canada” (1973) 23 University of Toronto Law Journal 54.

Protection Act¹⁴ for example, provides for control orders¹⁵, stop orders¹⁶ and certificates of approval¹⁷. Certificates of approval require anyone who intends to construct or operate a potential source of pollution to obtain formal permission from the Ministry of the Environment. As part of the approval process the applicant for a certificate may be required to provide plans and specifications and to carry out tests to prove that its equipment, facilities and production processes will not cause pollution. Control orders are issued by the Ministry of the Environment to limit the rate of discharge of a pollutant, to stop the discharge permanently or for a defined period of time, to replace or refine existing pollution control equipment or to force compliance with Ministry directions concerning procedures to be followed in controlling or eliminating the discharge. Stop orders are used to shut down a polluting activity when the Ministry has reasonable and probable grounds to believe that a particular source of contaminants poses an immediate danger to life, health or property. In addition to these coercive methods, government action may also be punitive, such as the levying of fines or, increasingly, the use of quasi-criminal prosecutions.¹⁸

Our current regulatory approach evolved slowly. In the 19th century, Canada was a predominantly rural country and its business enterprises had a limited geographical scope. The energies of the federal government were directed towards encouraging economic

¹⁴ Revised Statutes of Ontario, 1990, chapter E.19

¹⁵ Ibid. section 7 (1).

¹⁶ Ibid. section 8 (1).

¹⁷ Ibid. section 9 (1) and (2).

¹⁸ See for example Ontario Ministry of the Environment, Offenses Against the Environment: Convictions in 1994 (Toronto: Ontario Queen's Printer, 1995).

growth through development of the abundant natural resources.¹⁹ This was achieved by granting public lands to homesteaders, building a transcontinental railway system and imposing tariffs to protect nascent industries. In the post-Confederation era geography became less of a barrier. The method of conducting business changed as the growing manufacturing sector began to sell its products to distant markets.

As in the United States and England, the earliest regulations such as the 1872 Weights and Measures Act, the 1893 Dairy Products Act and the 1907 Meat and Canned Food Act were designed to protect individuals from potential (financial) exploitation by setting standards and providing for government inspection and certification.²⁰ The underlying rationale of these statutes was the assurance of quality in order to facilitate commercial transactions rather than considerations of health and safety. Other early government regulatory efforts were expressed in the 1875 Gas Inspection Act and the Electricity Inspection Act of 1894. Regulation was also introduced to control rail rates with the 1897 passage of the Crow's Nest Pass Agreement.²¹

Early in the 20th century provincial governments introduced legislation to establish standards of wages and hours of work for firms working under government contracts. In 1914, the Ontario legislature passed the Workers' Compensation Act. Regulatory activity gained momentum after the First World War when minimum wage legislation was enacted. In 1935 the Canadian Wheat Board was established to regulate wheat prices.

¹⁹ Supra footnote 4 at 8-9.

²⁰ The Meat and Canned Food Act, 6-7 Edward VII, 1907, Chapter 27 provided for government inspection of meat carcasses (sections 4-8); meat found "fit for food" was to be "marked" (section 9) and vendors of meat "unfit for food" were to be fined not more than \$500.00 (section 26).

²¹ For a detailed account of Canadian economic history see Kenneth Norrie and Douglas Owram, A History of the Canadian Economy (Toronto: Harcourt Brace Jovanovich Canada Inc., 1991).

This prompted other agricultural producers to lobby for legislation designed to stabilize prices and limit competition. The Agricultural Products Marketing Act of 1949 permitted the federal government to grant provincial marketing boards the power to regulate all provincially grown produce.

The 1960s and early 1970s witnessed another round of regulatory expansion which coincided with the appearance of a public environmental consciousness generated in part by the writings of Rachel Carson, Barry Commoner, Barbara Ward and Rene Dubos.²² At the federal level statutes passed or amended included the Clean Air Act, the Canada Water Act, the Environmental Contaminants Act and the Ocean Dumping Control Act. Today regulation in Canada is a growth industry and much of the explosion of government regulatory activity is directed at environmental protection.²³

Within Ontario, environmental regulation began in 1956 with the creation of the Ontario Water Resources Commission. Early statutory initiatives reflected the limited scope of provincial concerns, for example, the Ontario Water Resources Act of 1958 focused on municipal sewage treatment and sanitation processes. The heightened public concern with the environment during the 1960s in combination with the realization that adequate environmental protection entails more than specific local issues resulted in passage of the Ontario Environmental Protection Act of 1971. A year later the Water Resources Commission was disbanded and replaced by the Ministry of the Environment

²² Rachel Carson, Silent Spring (Boston: Houghton, Mifflin, 1962); Barry Commoner, The Closing Circle (New York: Alfred Knopf, 1971); Barbara Ward and Rene Dubos, Only One Earth (New York: W. Norton, 1972).

²³ See Appendices 2 and 3 for an overview of the number of regulations enacted by the Federal government and by the Province of Ontario in each year from 1975 to 1994.

which then assumed a much broader mandate to protect the natural environment from a range of activities including air emissions and waste disposal sites.²⁴ The creation of a separate ministry to deal specifically with environmental protection was an explicit acknowledgment that pollution was no longer to be tolerated as an inconvenient by-product of economic activity but rather as a pervasive and serious social ill.

Since then, the Ontario government has enacted a myriad of environmentally oriented statutes and associated regulations. A non-exhaustive list includes the Crown Timber Act, the Dangerous Goods Transportation Act, the Endangered Species Act, the Environmental Assessment Act, the Gasoline Handling Act, the Health Promotion and Protection Act, the Intervenor Funding Project Act, the Mining Act, the Occupational Health and Safety Act, the Pesticides Act and the Waste Management Act. The scope of substances subject to regulation is staggering. The Occupational Health and Safety Act alone provides regulatory guidelines for materials ranging from acrylonite to vinyl chloride. Entities regulated under the same Act range from construction projects (O. Reg. 213/91), university academics and teaching assistants (R.R.O.1990, Reg. 858) to Workplace Hazardous Materials Information Systems (R.R.O. 1990, Reg. 860).²⁵

In addition to this plethora of legislation, the provincial government has also undertaken a variety of regulatory initiatives such as the Municipal-Industrial Strategy for

²⁴ Ontario Ministry of the Environment, Report of the Task Force on the Ontario Environmental Bill of Rights (Toronto: Queen's Printer for Ontario, 1992) 5.

²⁵ Cathy Majtenyi, Guide to Environmental Legislation in Ontario (Don Mills: Southam Information and Technology Group, 1992).

Abatement, the Air Management Strategy, the Countdown Acid Rain Program and the Strategy for the Development of New Biochemical Waste Facilities in Ontario.²⁶

B. Environmental Juridification

The growth of environmental regulation continues today. In the United States, Eric Orts has borrowed the term “juridification” from Jurgen Habermas to convey the enormity of American environmental law and regulation.²⁷ Juridification (Verrechtlichung) was coined to describe the regulatory approach to industrial labor organization. It implies not only a proliferation of highly technical and specific laws and regulations directed at an area of social life, but also a sense of the undesirable intrusion of law into social realms.²⁸ In his writing Habermas draws a distinction between two spheres of social life: system and lifeworld. The lifeworld is a sphere based on communicative rationality with a goal of resolving conflict through communication and understanding. In contrast, system imperatives are efficiency and consistency. In the system, law is used instrumentally to promote system integration. As Habermas warns, this inexorably leads both to a proliferation of law and to the extension of law’s reach into areas of the lifeworld previously unregulated by law. This process, described by Habermas as the “colonization of the lifeworld,” leads to replacement of the communicative rationality of the lifeworld by system imperatives.

²⁶ Ibid.

²⁷ Eric W. Orts, “Reflexive Environmental Law” 89 Northwestern University Law Review (1995) 1227 at 1239 - 1240.

²⁸ Jurgen Habermas, The Theory of Communicative Action (Boston: Beacon Press, 1987).

Orts uses the term “juridification” to identify both the growth of environmental law and its colonizing tendencies. He explicitly notes the hubris of this approach, that is, the unquestioned assumption that the creation of more legal rules is a panacea for social problems.

At the federal level in the United States there are over one hundred separate environmental statutes. The texts of seven major American environmental statutes run to several thousand pages.²⁹ The sheer volume of environmental law underscores the limitations of direct legal regulation of the environment. As evidence Orts cites a poll of corporate general counsels which found that less than one third of them believed that full compliance with applicable environmental laws was even possible.³⁰

The situation in Canada is similar.³¹ At the beginning of the 1960s there were no governmental departments of environment and little legislation which specifically addressed the issue of environmental protection.³² However by 1983, Canadian “[environmental] laws and regulations [ran] to hundreds or thousands of pages and substantial resources [were] devoted to surveillance and enforcement.”³³ The incremental growth of environmental statutes and regulations not only leads inevitably to a bewildering array of law but also reveals more fundamental problems. One report emphatically notes that more regulations “...creating new prohibitions and penalties is

²⁹ Supra footnote 27 at 1240.

³⁰ Ibid.

³¹ See Appendix 4 for a list of Acts administered by Environment Canada and see Appendix 5 for a summary of the Regulations and Guidelines under the Canadian Environmental Protection Act.

³² Kernaghan Webb, Pollution Control in Canada: The Regulatory Approach in the 1980s (Ottawa: Law Reform Commission of Canada, 1988) 3-4.

³³ Donald N. Dewees, “The Rationale for Government Regulation of Quality” in Donald N. Dewees (ed.) The Regulation of Quality (Toronto: Butterworths, 1983) 1 at 3.

often the response of the regulator who lacks the means or knowledge to manage a problem.”³⁴ Some commentators even remark that as the juridification process extends to the natural environment it produces a phenomenon known ironically as “legal pollution.”³⁵

Environmental juridification poses a serious problem for regulated industries because it significantly increases the burden of regulatory compliance and associated costs. A recently completed study by Standard & Poor for five federal government departments predicts that Canada’s greenhouse gas reduction commitments will lower the country’s gross domestic product by \$5,000.00 to \$7,000.00 per person by the year 2010.³⁶ The “densification” of law implicit in juridification imposes a heavy onus on business to keep its knowledge of the law current. Certain requirements, such as mandatory applications for certificates of approval, produce lengthy delays in getting projects underway because some large undertakings may require literally hundreds of certificates of approval.³⁷ In addition to delays, industry also complains of unnecessary roadblocks and inconsistent treatment of applications.³⁸ Juridification also reveals a fatal, inherent weakness of attempting to protect the environment through increasingly detailed commands. As the process continues, that is, as existing laws are amended and regulation is extended to new areas, the legal system’s capacity to process the requisite information

³⁴ Supra footnote 1 at 5.

³⁵ Supra footnote 27 at 1239.

³⁶ Eric Beaulac, “Kyoto Commitment Will Hurt GDP: Study” The Ottawa Citizen July 3, 1998, p. A3.

³⁷ David Estrin, John Swaigen and Mary Anne Carswell, Environment on Trial: A Guide To Ontario Environmental Law and Policy (Toronto: Emond Montgomery Publications, 1993) 442.

³⁸ Ibid.

becomes overextended. This leads to the fear that eventually command and control regulation will break down under its own weight.³⁹ As Carol Rose asks, “How can we make sense of environmental law? Our legislators churn out great indigestible masses of statutes about the environment, which in turn are interpreted by mounds of regulations, all densely packed with bizarre terms and opaque acronyms.”⁴⁰ The amount of environmental law to be enforced overextends the capacity of ministry officials to enforce it, as well as the capacity of the legal system to process it.

In some respects the traditional regulatory regime also creates misleading expectations about its capacity to effectively protect the environment. The ubiquity of environmental regulation suggests that adequate protection is in place and thus promotes incremental change to the existing system as a solution to new problems rather than serious consideration of fresh alternatives to the process of incrementalism.

C. Administrative Problems

In addition to its cognitive limitations, the command and control model of environmental regulation presents serious administrative problems. The complexity of the burgeoning “regulatory maze” combined with the natural constraints on legislators’ time “...are overloading governments and control agencies well beyond their limits.”⁴¹

³⁹ Supra footnote 27 at 1241.

⁴⁰ Carol M. Rose, “Rethinking Environmental Controls: Management Strategies for Common Resources” 1991 Duke Law Journal 1 at 1.

⁴¹ Michael J. Trebilcock, Douglas G. Hartle, J. Robert S. Pritchard and Donald N. Dewees, The Choice of Governing Instrument (Ottawa: Supply and Services Canada, 1982) 91.

There is also the problem of the “moral hazard” presented by command and control style regulation. Orts maintains that the very existence of an administrative command center means those being commanded may attempt to exert improper influence over the commands being given. Often “functional relationships” develop between government departments or agencies and specific industries. These relationships arise because certain industries can have a significant impact on the success of policies pursued by a given department, for example, road-builders associations with a department of highways or pharmaceutical manufacturers with a department of health. As a result, these “functionally related” interests are listened to more often and more carefully than “non-functionally related” constituencies.⁴² In Canada the Friday Group is an informal aggregation of business interests representing the oil and gas industry, chemical producers, automakers, manufacturers and the mining and forestry sectors.⁴³ Although it keeps a low profile and its avowed purpose is the exchange of information, the Group has long been suspected by environmentalists of lobbying to control the direction of Canadian environmental policy by pressing for more voluntary and less regulatory action. Even senior government officials such as Tony Clark, former assistant deputy minister at Environment Canada, acknowledge that the Friday Group is a strong , unified and very influential force.⁴⁴

Carried to its extreme, the “moral hazard” of command and control as expounded by Orts leads to the perennial problem of capture theory, the central tenet of which warns

⁴² Robert Presthus, *Elite Accommodation in Canadian Politics* (Toronto: MacMillan, 1973) 212-216.

⁴³ See Tom Spears, “The Friday Group, Industry Associations Take Aim at Environmental Regulation” *The Ottawa Citizen* July 28, 1997, p. C1.

⁴⁴ Ibid.

that governmental administrative agencies, sooner or later, are subject to “capture” by the very industries they regulate.⁴⁵ This occurs as a result of the close contact between the regulators and regulatees, their shared expertise within the system and the movement of personnel between administrative agencies and regulated industries. According to the theory, “capture” results in a preponderance of regulated interests in the process of agency decision-making and produces a policy bias in favor of those interests. A study completed for the Law Reform Commission of Canada described the early environmental regulatory system as being somewhere between “cautious” and “captured”.⁴⁶ As T.F. Schrecker notes, businesses which generate environmental hazards are dealt with on a day to day basis by environmental agencies. Links are formed between industry and responsible regulating agencies because industry is frequently relied on for necessary testing and information. This leads to situations such as the 1979 federal regulations which permitted AMAX Mines to dump thousands of tonnes of heavy metal-contaminated tailings per day into Alice Arm with potentially catastrophic effects for the health and livelihood of the Nishga native people of Northern British Columbia.⁴⁷ Paul Emond points out that the federal Fisheries Act regulations were drafted by federal officials in consultation with representatives of the Canadian Pulp and Paper Association while national environmental protection organizations such as the Canadian

⁴⁵ George J. Stigler, The Citizen and The State (Chicago: University of Chicago Press, 1975); see also James A. Henderson Jr. and Richard N. Pearson, “Implementing Federal Environmental Policies: The Limits of Aspirational Commands” in Robert V. Percival and Dorothy C. Alevizatos (eds.) Law and The Environment, A Multidisciplinary Reader (Philadelphia: Temple University Press, 1997) 315 at 317-318.

⁴⁶ T. F. Schrecker, Political Economy of Environmental Hazards (Ottawa: Law Reform Commission of Canada, 1984) 10.

⁴⁷ *Ibid.* at 18.

Environmental Law Association were specifically excluded from the process.⁴⁸ In the case of agencies responsible for environmental regulation capture can be a dual threat, both from regulated industries and also from the multiplicity of pro-environment organizations. Realistically however, the greater danger is posed by industry because of the many functional relationships that develop between industry and government and also because of the superior financial and organizational strengths of business.

D. The Static Nature of Command and Control Regulation

Traditionally governments have reacted to environmental problems on a situation by situation basis with instruments designed to reduce further damage, to clean up the damage already done, and if possible, to reverse the damaging process. Unfortunately, this “react and cure” strategy of ad hoc law making is no longer adequate to address the new generation of complex and interrelated environmental problems. Kernaghan Webb suggests that environmental protection has become a “moving target” as conventional pollution problems have been superseded by concerns about “cumulative loadings, hazard threshold levels and the synergistic effects of combinations of pollutants.”⁴⁹ There is a

⁴⁸ Paul Emond, “Environmental Law and Policy; A Retrospective Examination of the Canadian Experience” in Ivan Bernier and Andree Lajoie (eds.) Consumer Protection, Environmental Law and Corporate Power (Toronto: University of Toronto Press, 1985) 89 at 135.

⁴⁹ Supra footnote 32 at 9.

need to shift emphasis from “react and cure” tactics to strategies that “anticipate and prevent.”⁵⁰

The react and cure methodology of the command and control regulatory style focuses on existing or emerging problems and therefore concentrates on abatement of pollution, often through “end of pipe” solutions, rather than its prevention. Aside from monitoring and enforcement costs it frequently involves the expense of retrofitting industrial plants and resource developments. These costs tend to be shifted to the public, not only as a consequence of health, property and ecosystem damage, but also in the form of higher taxes for the publicly financed portion of retrofitting schemes and clean-up and reclamation programs. Also, as consumers the public pays increased product prices to cover the privately financed portion of retrofitting projects. In contrast, strategies crafted to anticipate and prevent pollution encourage prior consideration of the full environmental dimension of economic decisions. This implies lower cost because the building of preventive measures into the design of products, processes or plants is usually less expensive than the addition of such measures through redesign or retrofitting.⁵¹ Thus, by their nature, anticipate and prevent strategies allow for greater flexibility, and less expensive solutions to pollution problems.

Initiatives designed in the traditional format are limited to the state of scientific and technical knowledge at the time they are enacted and therefore are unable to adapt to changing circumstances and developing knowledge. The use of catalytic converters on

⁵⁰ Organization for Economic Cooperation and Development, Issue Paper: Session 8 “Future Directions For Environmental Policy” 217 at 222-224 in Environment and Economics (Paris: Organization for Economic Cooperation and Development, 1985).

⁵¹ Ibid. at 225.

new automobiles is an example. This forced technological change reduces unwanted emissions from new cars but fails to account for the increase in vehicle miles traveled due to the growing number of cars on the road and longer average commuting times. In 1995, 81 of every 100 kilometers traveled by individuals in Canada was in an automobile. This accounted for more than 40 per cent of all fuel consumption and carbon dioxide (a greenhouse gas) emissions in the transportation sector.⁵² Gains from cleaner combustion engines are being largely offset by the increase in vehicle miles traveled.⁵³ A less static approach to combat automotive emissions would combine the catalytic converter requirement with the promotion of public transportation to counter the increase in vehicle miles traveled.

This situation is about to be repeated in Ontario. Recently Environment Minister Norman Sterling announced the creation of "Drive Clean", the provincial government's emission control program, which will not be fully implemented until 2015. According to critics such as the Ontario Environmental Protection Working Group, any program benefits will be far outweighed by increased automobile use (more vehicle miles traveled). Moreover, the increase in automobile use is directly attributable to other,

⁵² Environment Canada, Science and the Environment Bulletin June 1998 (Hull: Environment Canada, 1998) 2.

⁵³ Tom Spears, "Ontario Losing War on Smog, Report Says 2% Increase Noted in Last 10 Years" The Ottawa Citizen March 8, 1995, p.A5; see also Tom Spears, "Hazed and Confused, We're on Smog Alert" The Ottawa Citizen June 4, 1996, p.A4 and Environment Canada, Science and Environment Bulletin January 1998 (Hull: Environment Canada, 1998) at 2 where it notes: "Some [studies] indicate that by reducing Canadian smog-related emissions by 10-15%...243 premature deaths a year would be avoided; 130,000 asthma-symptom days and 8,000 emergency room visits a year would be avoided; and annual health benefits valued at over \$1.5 billion would be realized."

conflicting government policies such as the reduction of funding for public transport by \$718 million and the provision of incentives for suburban development.⁵⁴

E. Regulations and Science

Command and control environmental regulation is a blunt instrument for dealing with problems rooted in science. The typical regulatory prohibition operates under the assumption that contaminants can be controlled so that they can be limited to the assimilative capacity of the various environmental media. Andrew Thompson labels this mechanistic view of science “empiricist formalism,” a reductionist approach to science which is the equivalent of legal positivism in jurisprudence. Thompson asserts that in fact science is unable to match pollutant loads to environmental assimilative capacities.⁵⁵ As an example, there are over 35,000 chemicals currently manufactured or imported into Canada for commercial use but the number of these chemicals which pose a threat to human health or to the environment is unknown.⁵⁶ It is obviously difficult to reconcile pollutant loads of chemicals, either alone or in combination, with assimilative capacity through legal regulation in the absence of crucial information concerning the toxicity of the various substances to be regulated.

⁵⁴ Shannon Black, “Ontario Making Pollution Worse: Critics” The Ottawa Citizen June 18, 1998, p. A14.

⁵⁵ Andrew R. Thompson, “Water Law - The Limits of The Management Concept” in Peter Z. R. Finkle and Alastair R. Lucas (eds.) Environmental Law in the 1980s: A New Beginning (Calgary: Canadian Institute of Resources Law, 1982) 49.

⁵⁶ Standing Committee On Environment and Sustainable Development, It's About Our Health! Towards Pollution Prevention (Ottawa: Canada Communications Group, 1995) 29.

In the context of evaluating available scientific evidence of environmental hazards, Schrecker points out the necessity of making a distinction between the legal concepts of burden of proof and standard of proof.⁵⁷ Burden of proof refers to the legal duty to produce evidence to support a contention. Standard of proof refers to the strength of the evidence (balance of probabilities versus beyond a reasonable doubt) which must be adduced to prove a contentious point. Schrecker argues that in practice these two issues can become entangled. Where the burden of proof falls on a proponent, the application of lenient standards can subvert the process into one that presupposes a right to pollute and approval becomes automatic.⁵⁸ Conversely, if regulators are compelled to impose rigid standards of scientific proof, for example, to demonstrate “significant danger” the result leads to “immobilization”⁵⁹ of the regulatory process.

The tenuous relationship between scientific certainty and legal concepts of proof is further illustrated by the difficulty in establishing a satisfactory definition of pollution. Although various regulations set out criteria for specific forms of pollution there is no comprehensive and unifying definition.⁶⁰ Kernaghan Webb illustrates the definitional problem by reference to the federal Fisheries Act, which defines water pollution as depositing “deleterious substances” into water frequented by fish.⁶¹ The term “deleterious substance” is defined by subsection 35 (2) of the Act:

⁵⁷ Supra footnote 46 at 25.

⁵⁸ Supra footnote 12, this is a central criticism of the Ontario Environmental Assessment Act.

⁵⁹ Supra footnote 46 at 25: “Immobilization” is defined as “a phenomenon which does not render the agency completely motionless, but which constrains its freedom of action and reduces its pace of operation to a form of protracted incrementalism.”

⁶⁰ Donald T. Wells, Environmental Policy (Upper Saddle River, New Jersey: Prentice-Hall Inc., 1997) 5.

⁶¹ Supra footnote 32 at 39-40.

- (a) any substance that, if added to any water, would degrade or alter or form part of a process of degradation or alteration of the quality of that water so that it is rendered or likely to be rendered deleterious to fish or fish habitat or to the use by man of fish that frequent that water, or
- (b) any water that contains a substance in such quantity or concentration, or that has been so treated, processed or changed, by heat or other means, from a natural state that it would, if added to any other water, degrade or alter or form part of a process of degradation or alteration of the quality of that water so that it is rendered or is likely to be rendered deleterious to fish or fish habitat or to the use by man of fish that frequent that water, and without limiting the generality of the foregoing includes
- (c) any substance or class of substances prescribed pursuant to paragraph (12)(a), and
- (d) any water that contains any substance or class of substances in a quantity or concentration prescribed in respect of that substance or class of substances pursuant to paragraph (12)(b), and
- (e) any water that has been subjected to a treatment, process or change prescribed pursuant to paragraph (12)(c).

This problematic definition was addressed in R. v. MacMillan Bloedel (Alberni) Ltd.⁶² by the trial judge who observed: “I must agree with the Provincial Court judge that a definition that uses the word defined is awkward.”⁶³

As Webb points out, the definitional problem is compounded by the issue of whether the prosecution must prove the deposited substance is deleterious in any water or specifically in the water in question. Case law seems ambiguous on this point. A strict interpretation of subsection (35) (2) appears to support the proposition that an offense occurs if any water is rendered deleterious by the impugned substance.⁶⁴ Contrary to this position however, it has been held that the prosecution must prove the water into which the deposit was made has been rendered deleterious.⁶⁵

A final difficulty arising from the incompatibility of law and science is that even with evidence of a fish kill the Crown must prove, beyond a reasonable doubt, a

⁶² (1979), 2 F.P.R. 182 (British Columbia Court of Appeal).

⁶³ Ibid. at 184-185.

⁶⁴ This position was upheld by the British Columbia Court of Appeal in R. v. MacMillan Bloedel (Alberni) Ltd. (1979), 2 F.P.R. 182.

⁶⁵ R. v. Imperial Oil Enterprises Ltd. (1978), 2 F.P.R. 155 (Nova Scotia Magistrates' Court).

connection between the deposit of the substance in question and the fish kill. This process can be rendered even more arduous if the act of depositing the substance in question and the fish kill are not contemporaneous. The time lag between cause and effect may negate the prosecution's case. Without direct, observable evidence of an immediate cause and effect relationship between the deposit of the impugned substance and the fish kill the prosecution faces the more difficult task of proving less obvious examples of harm such as reduced fertility or shortened life span. This may require laboratory tests and expert testimony.⁶⁶ The absence, or perhaps impossibility, of a scientific definition of pollution that transfers easily into the adjudicative realm of the legal system thus adds considerable time, expense and uncertainty to the enforcement process.

F. The Problem of the "Gap"

The focal point for much of the criticism of command and control environmental regulation concerns the gap between the expectations and the results of government policy. Critics point out that despite the plethora of environmental legislation and the increasingly severe penalties for pollution offenses we are still confronted by persistent problems such as acid rain, stratospheric ozone depletion and toxic chemical

⁶⁶ Supra footnote 32 at 39-40.

contamination.⁶⁷

One account for the existence of this gap highlights government concern with the promotion of economic growth as a means of enhancing the well-being of its citizens. Governments in industrial societies realize that failure to achieve strong economic growth magnifies distributional conflicts and limits the revenue base on which they depend to finance other activities such as the transfer payments to individuals which form the basis of the modern welfare state.⁶⁸ Consequently, pollution control legislation was never designed to eliminate pollution but rather to bring it within tolerable limits to facilitate economic development.⁶⁹ Paul Emond supports this contention by reference to the saga of Kalamazoo Vegetable Parchment Ltd. (K.V.P.). From 1905 to 1930 the company operated a pulp and paper mill at Espanola, Ontario on the Spanish River. The river had been badly polluted but gradually recovered following the mill's closure. The river's revival created an opportunity for outfitters to establish a thriving business catering to tourists and sport fishermen. In 1946 the mill reopened after undertaking to the Ontario government not to deposit refuse, sawdust or chemicals into the river. Despite the undertaking, the mill was soon polluting the river again. In 1948, five outfitters, affected by the pollution, sued K.V.P., alleging that its polluting activities interfered with their

⁶⁷ This is evidenced simply by scanning daily newspapers; it also forms part of the debate concerning the effectiveness of the Canadian environmental law regime referred to in Chapter 1. Sample headlines include: "Ontario Making Pollution Worse: Critics" The Ottawa Citizen, June 18, 1998, p.A14; "Tories Soft on Polluters: Report. Ontario's Record Worse Since '60s, Researchers Say" The Ottawa Citizen, June 22, 1998, p. A1; "Sterling Denies Pollution Allegation. Environmental Groups Are Telling Lies, Minister Says" The Ottawa Citizen, June 23, 1998, p. A4.

⁶⁸ Supra footnote 45 at 23.

⁶⁹ Supra footnote 48 at 134.

riparian rights.⁷⁰ Chief Justice McRuer, of the Ontario Supreme Court enjoined the defendant from further pollution causing activities subject to a six month delay to enable K.V.P. to pursue abatement strategies.

In 1949, the Ontario legislature, concerned about the detrimental economic effects of the possible permanent closure of the mill, amended the Lakes and Rivers Improvement Act⁷¹ to direct courts to weigh the economic benefits that a mill operation confers on a community against the private damage sustained by individuals before granting injunctive relief. The Supreme Court of Canada refused to use the new section of the Act to overturn Chief Justice McRuer's trial decision.

The response of the Ontario government was the 1950 Kalamazoo Vegetable Parchment Co. Ltd. Act,⁷² which had the effect of dissolving the injunction and obliged the company only to compensate the plaintiffs for nuisance. The moral of the legislative interventions of the provincial government in the K.V.P. case is that historically, pollution in Ontario is only problematic when it interferes with economic development.⁷³

The favoring of economic interests over environmental concerns has meant command without much control. John Swaigen makes the observation that despite the commonly used rhetoric of prohibition in our environmental regulation the true essence of Canadian environmental law is bargaining and negotiation.⁷⁴ Although the law sets out

⁷⁰ McKie v. Kalamazoo Vegetable Parchment Co. Ltd. [1948] 3 Dominion Law Reports 201.

⁷¹ Statutes of Ontario 1949, chapter 48.

⁷² Statutes of Ontario 1950, chapter 33.

⁷³ Supra footnote 47 at 133.

⁷⁴ John Swaigen, "Environmental Law At The Limits Of Incremental Development" in Peter Z. R. Finkle and Alastair R. Lucas (eds.) Environmental Law in the 1980s: A New Beginning (Calgary: Canadian Institute of Resource Law, 1982) at 85.

the required conduct, frequently the norms of conduct are the subject of negotiation between the regulator and the regulated entity right up to the moment of compliance or non-compliance. This view point is echoed by Tom Conway who found that Canada has exhibited "... a tendency to negotiation and exhortation as a substitute for strict legal enforcement of standards" in environmental conflicts.⁷⁵ The pattern of favoring negotiation over strict enforcement may well be construed as evidence of the capture theory. Enforcement statistics support Conway's conclusion. In 1984 only 54 environmental prosecutions were commenced in the Province of Ontario.⁷⁶ Even as recently as 1991 only 313 environmental prosecutions were initiated in the Province of Ontario despite the large number of known breaches of environmental regulations.⁷⁷

G. Corporate Director Liability

One of the most significant incremental developments in Canadian environmental law is the introduction of personal liability for directors of corporations. Legislative trends over the past twenty years have greatly widened the scope of personal liability for corporate directors⁷⁸ and consonant with this trend, Ontario introduced "gatekeeper

⁷⁵ Supra footnote 6 at 27.

⁷⁶ Dianne Saxe, "Environmental Prosecutions and the Corporate Director" in Corporate Directors on the Firing Line (Mississauga: Insight Press, 1991) 1-29 at 1.

⁷⁷ Supra footnote 23 at 6.

⁷⁸ See Dianne Saxe, Environmental Offenses: Corporate Responsibility and Executive Liability (Aurora: Canada Law Book, 1990) at 71 where she notes "[T]here are at least 80 federal statutory provisions of this type, 62 in British Columbia, 98 in Alberta, 45 in Manitoba 126 in Ontario and 19 in New Brunswick"; see also E. David D. Tavender, Catherine M. Poyen and Donna M. Hallett, "Developments in Corporate Liability: Is the Sky the Limit?" (1993) 22 Canadian Business Law Journal 258.

liability” into its environmental law regime during the 1980s.⁷⁹ The rationale for the move to supplement enterprise liability with personal liability is to ensure that those persons responsible for corporate policy have a strong personal incentive to take a proactive approach to environmental protection.⁸⁰ Corporate directors are natural targets for legislators and regulators because corporations themselves tend to be major sources of environmentally damaging activity.⁸¹ Corporations typically handle the most dangerous types of pollutants such as radioactive wastes and chemical residues, the potential scale of damage from corporate activities is far larger than that from individuals and corporations have resources with which to address pollution problems. Further, the localization and scale of pollution resulting from corporate activity, such as a petrochemical plant, make it easier to control than a similar amount of pollution from many, widely dispersed individuals.⁸² Unfortunately, enforcement proceedings against corporations are often unsuccessful because frequently fines are too small or too late to have an impact on the impugned behavior or they are simply passed off, either to consumers in the form of higher prices or to shareholders in the form of lower profits.⁸³ Notably, corporations can not be imprisoned. The argument for extending the ambit of director liability into the area of environmental law is that the typical director is a middle-class business man or woman who is extremely sensitive to the stigma of personal prosecution and possible conviction

⁷⁹ For example, the Dangerous Goods Transportation Act, 1981, Statutes of Ontario, chapter 69, section 7.

⁸⁰ Industry Canada, Working Group Report on Directors' Liability (Ottawa: Queen's Printer, 1993) 22.

⁸¹ Dianne Saxe, *supra* footnote 78 at 21.

⁸² *Ibid.* at 21-22.

⁸³ The matter of ineffective fines has been remedied in some specific cases, see Diane Saxe, “Fines Go Up Dramatically in Environmental Cases” (1989) 3 *Environmental Law Reports* (New Series) 104.

as well as to the financial impact of a personal fine.⁸⁴ Although there is nothing new about holding corporate directors personally responsible for damages arising from corporate activities, the expansion of the range of their liabilities to include infractions of environmental law entails both qualitative and quantitative differences.

Canadian corporate law provides for a board of directors to be elected by the shareholders of a corporation. The directors' powers are derived from the appropriate statute.⁸⁵ Legally, the corporation's business is conducted by its board of directors during the course of properly constituted meetings. In practice, the role of the board is to determine policy and to design a system for corporate management to implement this policy on a day to day basis. Directors are guided by widely stated statutorily imposed duties including the duty to act in good faith and in the best interests of the corporation and to act with the care, diligence and skill that a reasonably prudent person would exercise in comparable circumstances. These duties have acquired a jurisprudential content over time which shapes the manner in which directors may exercise their statutory powers. Breach of these duties renders directors personally liable, however this liability is restricted to the shareholders of the corporation. Statutes dealing with income tax, retail sales tax, unemployment insurance schemes and the Canada Pension Plan have increased directors' personal liability but again the liability is in favor of an identifiable group, namely, various governmental revenue collecting agencies. In contrast, personal

⁸⁴ Diane Saxe *supra* footnote 78 at 41.

⁸⁵ Either the Canadian Business Corporations Act, Revised Statutes of Canada 1985, chapter 44 or the appropriate provincial statute, in Ontario for example, it is the Ontario Business Corporations Act, Revised Statutes of Ontario, 1990, chapter B.16.

responsibility for environmental mishaps is qualitatively different because it renders corporate directors liable to the public at large.

Similarly, the quantum of liability under directors' duties to the corporation or to the government is generally easy to establish, for example, the amount of unremitted deductions for income tax. On the other hand liability for environmental damage is quantitatively different because it is potentially unlimited.

A final important distinction between previously imposed personal director liability and the liability contemplated by environmental statutes concerns the degree of participation required by the director. The first generation of statutes to use personal director liability as a compliance mechanism provided that where a corporation was guilty of an offense under the legislation, a director of the corporation who directed, authorized, assented to, acquiesced in or participated in the commission of the offense was a party to and guilty of the same offense. Liability attached to the director because he or she played a part in the corporation's unlawful act and was therefore deemed to have made the corporate act his or her own.

Under current environmental protection statutes a director's involvement is subject to a more stringent standard. For example, section 194 of the Ontario Environmental Protection Act⁸⁶ provides that:

Every director or officer of a corporation that engages in an activity that may result in the discharge of a contaminant into the natural environment contrary to this Act or the regulations has a duty to take all reasonable care to prevent the discharge.

⁸⁶ Revised Statutes of Ontario, 1990, chapter E. 19.

The Act further states that a director is liable to prosecution whether or not the corporation has been prosecuted or convicted. This means the director's duty is direct since it arises independently of the existence of a corporate duty. Thus the law imposes a personal onus on the director to exercise the requisite level of care to ensure that the apprehended harm does not occur.

The statutory enlistment of directors as monitors to ensure regulatory compliance takes advantage of their influential position within the corporate structure but it simultaneously poses significant problems for corporate governance because it holds directors personally liable for day to day business activities that normally fall beyond the ambit of their duties.⁸⁷ In practical terms, the broad range of relatively new areas of personal liability produces "directors' chill" or "liability chill."⁸⁸ This term was coined to describe the reaction of directors to the expansion of their statutory liabilities. Directors' chill has two aspects: first, there is some evidence that potential qualified candidates for board positions are increasingly reluctant to serve,⁸⁹ and second, incumbent directors consider resignation in the face of increasing personal liability.⁹⁰ The impact of directors' chill on small and medium size corporations and on new businesses is especially pernicious since they frequently lack the staff with the requisite background and training

⁸⁷ See Industry Canada, Canada Business Corporations Act, Discussion Paper on Directors' Liability (Ottawa: Industry Canada, 1995) at 1, "[d]irectors' liability raises an issue that strikes at the heart of corporate governance in Canada."

⁸⁸ For a discussion of the growth and impact of "directors' chill" see Toronto Stock Exchange, Report of the Committee on Corporate Governance in Canada (Toronto: Toronto Stock Exchange, 1994) and Industry Canada supra footnote 87.

⁸⁹ Standing Senate Committee on Banking, Trade and Commerce, Corporate Governance (Ottawa: Queen's Printer, 1996) 12.

⁹⁰ Supra footnote 80 at 27.

to foresee or to plan for all potential legal liabilities.

Directors represent an important resource for corporations.⁹¹ Aside from their legal responsibility to oversee corporate affairs they also advise management, add to the organization's reputational capital and provide important linkages to other business enterprises. Increased personal liability not only threatens this resource but also encourages directors to adopt risk-averse behavior which may negatively affect a corporation's financial performance.⁹²

Since the early 1960s Canadian directors have been able to insure themselves against the consequences of personal liability by purchasing directors' and officers' liability insurance.⁹³ The market for this type of policy expanded throughout the latter half of the 1970s and into the 1980s. During the first half of the 1980s however, the liability market in general began to show signs of strain. The widening exposure of business to the economic risk posed by the enhanced liability for environmental harm accentuated the need for appropriate insurance coverage while simultaneously making the insurance industry aware of its vulnerability to the uncertainties of environmental claims.⁹⁴ The result was a "crisis" in the liability insurance market. Occurrence-based policies were replaced by claims-made policies and both premiums and deductibles were increased.

⁹¹ Marilyn R. Kaplan and Richard Harrison, "Defusing the Director Liability Crisis: The Strategic Management of Legal Threats" (1993) 4 *Organization Science* 412 at 415.

⁹² *Ibid.* at p. 416.

⁹³ Ronald J. Daniels and Susan M. Hutton, "The Capricious Cushion: The Implications of the Directors' and Officers' Insurance Liability Crisis on Canadian Corporate Governance" (1993) 22 *Canadian Business Law Journal* 182 at 189.

⁹⁴ Jamie Benidickson, "Environmental Law Survey (1980-92), Part I (1992) 24 *University of Ottawa Law Review* 733 at 769.

The result in Ontario, as reported by the Slater Task Force in 1986, was the elimination of coverage for environmental risk:

[T]he availability of insurance coverage for ‘sudden and accidental’ pollution has shrunk considerably, while coverage for environmental impairment and longer-term pollution risks has virtually dried up. Indeed, the claims-made commercial general liability policies of both the Insurance Bureau of Canada and Lloyd’s of London specifically exclude pollution coverage.⁹⁵

The crisis was both a symptom and a cause of directors’ chill. As a symptom, it demonstrated another side effect of the broadening base of new legal liabilities for directors. As a cause, the inability of directors to obtain insurance against the risk of personal liability contributed directly to their fear of their burgeoning legal liability.

In response to the liability insurance crisis the government of Ontario, in concert with approximately twenty-five Canadian insurers and the Insurance Bureau of Canada created the “Limited Pollution Liability Insurance Pool” which provided for pollution coverage as a rider to comprehensive general liability policies.⁹⁶ This coverage however, was subject to significant exclusions and limitations. Today, the market for directors’ and officers’ liabilities has improved but coverage is expensive, subject to limitations and still unavailable for some operations.⁹⁷

The central issue raised by the creeping expansion of corporate directors’ personal liability into the environmental realm is the necessity for balance. On the one hand there is a need for appropriate corporate accountability, and on the other hand Canadian

⁹⁵ Ontario Ministry of Financial Institutions, Final Report of the Ontario Task Force on Insurance (Toronto: Queen’s Printer, 1986) 38.

⁹⁶ Ibid.

⁹⁷ Supra footnote 80 at 26.

corporations will suffer if mounting liability causes talented directors to resign, to refuse to serve on boards, to practice risk-averse management or to be unable to insure against risk.

H. The Information Problem

Environmental problems tend to be characterized by a high degree of uncertainty. Information is problematic on several levels. On a fundamental level reliable information concerning the toxicity, life cycle and life span of many substances used in modern industrial processes is unknown.⁹⁸ Moreover, information concerning the quantity, quality or concentration of known contaminants emitted, discharged or deposited by specific sources is vague or undocumented.⁹⁹ Similarly, few data are available concerning the combined effects of various chemicals. On another level there is the difficulty presented by the gap, or time lag between the implementation of new technology and the development of a complete understanding of its full environmental effects. A third dimension of the problem is that credible information concerning product and process characteristics, abatement technology and costs, production and effluent volumes and other variables is an important regulatory tool, but all too frequently the only knowledgeable source of information is the regulated firm or industry.¹⁰⁰ Even when such important information such as toxicological test data is provided to regulatory agencies,

⁹⁸ Supra footnote 56.

⁹⁹ Supra footnote 6.

¹⁰⁰ Supra footnote 46 at 12.

industry argues against its public release on the basis that it is “proprietary and confidential.”¹⁰¹

The information problem, or more accurately, the lack of reliable information, leads to implementation problems for environmental policy. As Andrew Thompson observes:

The reason why bargaining and negotiation characterize the process of environmental regulation... are believed to lie in the knowledge gaps and uncertainties that pervade environmental issues. It takes a sure grasp of issues of fact and a sure knowledge of societal values to define an offense which will be backed by automatic penalty.¹⁰²

The command and control regulatory style itself is the source of much of the mistrust between regulators and regulatees because the adversarial atmosphere it engenders is incompatible with the unrestricted sharing of information. The result is that both the substance and the enforcement of environmental regulations frequently are subject to a bargaining process.¹⁰³

I Conclusion

The various critiques of the traditional directives model of environmental regulation underscore the difficulty and complexity of attempting direct external regulation in an increasingly complex society. Many criticisms highlight an incompatibility between law and its regulatory targets. Generally the criticisms fall into

¹⁰¹ Ibid. at 18.

¹⁰² Supra footnote 1 at 33-34.

¹⁰³ Elizabeth J. Swanson and Elaine L. Hughes, The Price of Pollution (Edmonton: Environmental Law Centre (Alberta) Society, 1990) 202.

one of two categories. The first points to fundamental problems in approach, that is, the impossibility of blanket prohibitions, the difficulties of standard setting in the face of scientific uncertainty and lack of reliable information, and the reactive, incremental growth of regulation which leads to cognitive problems for both regulators and regulatees as well as overburdening control agencies and the judicial system. Both the effectiveness and the cost of regulation are called into question.

The second category is more a criticism of politics than of law. It directs attention to the lack of commitment to the use of the command and control approach. Government concern with the creation and maintenance of conditions favorable to economic growth has refocused the central objective of environmental policy on management of pollution rather than its prevention. The argument is that pollution control statutes are not intended to address pollution, rather they are designed to bring pollution within tolerable limits in order to facilitate economic development. Regulatory agencies are caught in a bind. Lax enforcement compromises policy objectives while stringent enforcement draws criticism from regulated entities concerning the high cost of compliance.

Implicit in each of these critical perspectives is the preoccupation of command and control regulation with the physical dimension of pollution. The regulatory climate, once characterized as close to capture, is becoming more adversarial and is in danger of overemphasizing enforcement statistics as a measure of success.¹⁰⁴ More importantly, by focusing only on the physical dimensions of the problem this approach systematically

¹⁰⁴ The Ontario Ministry of Energy and the Environment produces an annual publication entitled "Offenses Against the Environment, Convictions" which details the number of prosecutions, convictions, top ten fines and so on for the previous year. It does not similarly publicize information about environmental quality.

ignores alternatives to direct regulation, for example, the extent to which environmental quality can be improved through less direct methods, such as addressing lifestyle issues and consumer preferences.¹⁰⁵

Awareness of these failings has engendered a search for regulatory alternatives which some commentators label “the hottest growth industry in environmental law.”¹⁰⁶ This search leads directly to the market. On one hand there is a call for deregulation, or simply allowing the market to make decisions with respect to social goals like environmental protection. Advocates of deregulation object to the limits environmental regulation imposes on economic activity as well as the associated costs of compliance. *Prima facie* this seems regressive and unrealistic as it would merely “turn back the clock” to the days before environmental protection became a significant (and public) issue. On the other hand, the most frequently proposed alternative involves a shift from the directives model of regulation to the incentives model. Proponents of the incentives model do not object to regulation *per se*, but it is their belief that the use of incentives will lead to more efficient outcomes, both in terms of enhanced protection and lower costs. The underlying rationale for this move is to harness economic self-interest as a weapon in the battle for environmental protection. Market oriented solutions to the problem of environmental protection are considered in the next chapter.

¹⁰⁵ *Supra* footnote 32 at 123.

¹⁰⁶ *Supra* footnote 27 at 1241.

Chapter 3 An Alternative: Market Based Approaches to Environmental Protection

The idea of enlisting market mechanisms in the battle against pollution has been discussed for almost thirty years¹ and forms the subject matter of debate in a variety of disciplines.² The central idea is to have the market do what a regulator has to do under the traditional command and control style of regulation.

A. Background

Market proponents explicitly acknowledge a paradox at the heart of this approach. While admitting environmental degradation is a consequence of market failure, they advocate using the market itself to correct the situation. The underlying premise is that environmental harm is an external or social cost of economic activity that is not properly accounted for in free market decisions. In other words, during the course of market transactions, achievement of the lowest possible price between buyers and sellers of goods and services often ignores the costs imposed on third parties. The environmental aspect of these uncompensated costs includes detrimental health effects, property damage

¹ Robert N. Stavins and Bradley W. Whitehead, "Market Based Incentives For Environmental Protection" in *Environment* Volume 34, Number 7 (Washington: Heldref Publications, 1992) 7 at 11.

² In the field of business see Frances Cairncross, *Costing the Earth: The Challenge for Governments - The Opportunities for Business* (Boston: Harvard Business School Press, 1992); in the field of public policy see G. Bruce Doern, *The Environmental Imperative: Market Approaches to the Greening of Canada* (Toronto: C.D. Howe Institute, 1990); and in the field of economics see Marion G. Wroebel, *Environmental Problems: Market-Based Solutions* (Ottawa: Library of Canada, Research Branch, 1990).

and aesthetic impacts. The failure of the market is ascribed to undervaluing the environment as a factor of production. To a firm, the environment is no different than other factors of production such as land, labor and capital. Use of the environment is a declining function of price because the quantity demanded declines as the price rises, hence, if environmental media are available at a low price (or no price) large quantities will be demanded. Unfortunately, demand for the environment as a factor of production frequently translates into using the air, soil or water as a receptacle for unwanted discharges. The alternatives to free or low cost use of the environment, such as reduction of environmentally harmful by-products or disposing of them properly, are expensive because they entail an increase in labor, capital or other expensive inputs. A firm balances the cost of these alternatives against the cost of continuing to exploit the environment, which in the absence of intervention is low or even zero.³

To the economist this represents a problem of misallocated resources. The environment is a valuable resource and by mispricing it, the environment is consumed too quickly and the means of preserving it are ignored. The result is too much pollution, that is, discharges and emissions beyond the assimilative capacity of the various environmental media. Economists are not concerned directly with pollution levels. Instead, they focus on the damage caused by environmental degradation which they then compare to the cost of avoiding that damage. The economically efficient allocation of resources is reached when the additional benefit of pollution abatement equals the

³ Marion G. Wrobel, *supra* footnote 2 at 3-4.

additional cost of abatement and any change in pollution levels would make society worse off.⁴

Market oriented approaches to environmental protection, variously referred to as economic instruments, fiscal instruments and incentives, represent the strategy favored by many economists. Proposals range from Pigouvian taxes or charges to the Coasian inspired expansion of property rights. Other concepts are as diverse as tradable pollution rights and environmental marketing schemes. The key idea behind these initiatives is to internalize the previously externalized environmental costs of particular activities and products in order to reflect their true costs. By altering price structures in this way, the price of goods and services associated with high environmental costs will rise while the price of products and services with lower environmental costs will fall. This promotes a modification of behavior such that firms are encouraged to produce, and consumers are encouraged to choose, goods and services that are less environmentally harmful.

Advocates emphasize a number of purported advantages that inhere in market based environmental regulation.⁵ First, the market is superior to traditional regulatory schemes at assimilating and processing information. Price is the crucial element in decisions with respect to resource use. The market is able to identify and/or quantify all the relevant supply and demand variables (such as producer and consumer expectations, the impact of activities in off-shore markets, and the cost and availability of financing) that determine price. Traditional command and control regulation can only approximate

⁴ In other words, when Pareto optimality is reached.

⁵ Environment Canada, Reviewing the Canadian Environmental Protection Act, The Issues #8 (Hull: Environment Canada, 1994) 2.

this market information function and then only at a much higher cost.

Its proponents maintain that the market encourages technological innovation. Market based approaches are specifically designed to emphasize the cost of using the environment as a factor of production which provides a stimulus for research into the field of pollution prevention and abatement technology. A related feature of using the market is that it allows for a great deal of flexibility in designing responses to environmental goals. Firms can respond to the demand for enhanced pollution control in a variety of ways, including the use of alternative inputs in the production process, by developing new, cleaner technologies and by product modification. Moreover, because the signals for change are routed through the pricing system, this flexibility tends to produce least cost solutions.

It is alleged that market solutions also tend to elicit quick responses since the rationale for utilizing market mechanisms is to cause a direct impact on a firm's bottom line. The wide spread adoption of energy efficient programs following the oil price shocks of the 1970s is cited as an example of the speed of market based response.

Finally, the use of market based solutions to environmental problems is supposed to promote economic efficiency among firms. For example, the concept of marketable pollution permits allows polluting firms with relatively low abatement costs to treat their wastes, while simultaneously allowing those with relatively high abatement costs to buy the appropriate permits. These gains from trade foster least cost solutions among the participants.

Currently, the value of environmental resources (air, water, soil) used in production processes accrues to the producer who “appropriates” this common property or to the consumer who benefits from the resultant lower prices. The application of economic theory to compensate for the social cost of economic activity addresses this inequity by fixing a price for the common property of environmental resources. The flexibility of economic instruments allows for their deployment at any point in the production process, for example, a tax or charge on particular ingredients, to encourage the use of cleaner alternatives. Since firms tend to use inputs in inverse relation to their prices, the establishment of a price for environmental resources forces firms to calculate the cost of environmental resources in their decision making.

The next section presents the details of various market based proposals and assesses their strengths and weaknesses.

B. Examples of Market Based Approaches

(i) Pollution Charges

The concept of assessing taxes, fees or charges to environmentally harmful activity is attributed to A. C. Pigou.⁶ Pollution charges, also referred to as environmental charges, are designed to create an economic disincentive to pollute and can be imposed on any toxic substance, pollutant or activity that threatens the environment. Thus they represent a

⁶ A. C. Pigou, The Economics of Welfare (4th ed.), (London: Macmillan, 1962).

direct application of the “polluter pays” and/or the “user pays” principles first articulated by the Organization for Economic Cooperation and Development.⁷

Pollution charges are an extremely flexible policy instrument as they can be used to tax pollution quantities emitted, activities preceding discharge, inputs to those activities or actual damage resulting from the production process. Ideally a pollution charge should be directly related to the quantity of pollution generated as opposed to the level of pollution generating activity. For example, an electric utility might be charged a tax based on units of sulfur dioxide emitted rather than units of electricity produced. Since the taxes or charges paid by the firm increase in direct proportion to the amount of pollution the firm emits efforts to reduce pollution produce a direct benefit to the firm in the form of reduced effluent or emission charges.

The Organization for Economic Cooperation and Development distinguishes five types of pollution charges: emission/effluent charges which are based on the quantity of harmful discharges; user charges, which are payments for the use of a publicly owned resource such as air or water and/or to cover the cost of services directly related to the use of the resource, for example, the cost of distributional infrastructure such as water lines and public treatment facilities; production charges, which are fees based on the pollution caused by a product; administrative charges, which are payments for government services such as the registration of chemicals or other inputs; and tax differentiation, which provides more favorable prices for “cleaner” products.⁸

⁷ David Estrin, John Swaigen and Mary Anne Carswell, Environment on Trial (Toronto: Canadian Environmental Law Research Foundation, 1978) xxxii.

⁸ Organization for Economic Cooperation and Development, Economic Instruments for Environmental Protection (Paris: Organization for Economic Cooperation and Development, 1989).

Pollution charges provide a strong financial incentive for a firm to develop and implement improved pollution control technologies. Under the traditional command and control regulatory system a firm has no financial incentive to perform better than the required regulatory standard which has the effect of “locking in” existing technology. A pollution charge system however, does not specify a technology or a fixed standard. Instead, a firm incurs charges for each increment of pollution as opposed to pollution beyond a given standard. Thus, the firm is motivated to engage in a continuous effort to develop pollution reduction technologies in order to improve its financial performance.⁹

In Canada, the most familiar examples of environmental charge systems are found at the municipal level: the charges levied, through metering, on the consumption of water, user fees for landfill dumping and the deposit-refund system applied to beverage containers. Available evidence however, indicates that in Canada, as well as in other OECD countries, most environmental charges have been set too low to produce the required changes in behavioral patterns.¹⁰

An important prerequisite to implementing a pollution charge program is to establish whether its primary objective is to change behavior or to raise revenue. Many European countries, including the United Kingdom, France, the Netherlands, Sweden, Norway, Denmark, Italy, and Germany have adopted pollution charge systems but the purpose in each case is to generate revenue rather than to influence the behavior of polluters and their customers.¹¹

⁹ Supra footnote 1 at 30.

¹⁰ Supra footnote 7 at xxxi

¹¹ Supra footnote 1 at 31.

The major challenges to pollution charge systems are deciding who should have input into the discussion of charge levels and developing a means to establish desirable charge levels. Too high a charge might seriously curtail production and too low a charge could result in insufficient environmental protection. An associated problem is determining the appropriate basis for the charge, that is, deciding which inputs are subject to the charge and which are to be excluded. It is also necessary to establish the most effective point in the life cycle of a pollutant at which to attach the proposed charge as well as whether the charge is to be levied on total input, the product, total discharge levels or only on levels exceeding a threshold amount. It is also crucial to find an accurate and acceptable means of monitoring and quantifying inputs, products, emissions or effluents.¹²

Another difficulty facing pollution charge schemes is that determination of the socially optimal level of pollution could necessitate a great deal of experimentation over a long period of time. Moreover, the real value of the charge would decline over time as a function of inflation which means it would have to be constantly adjusted upward simply to maintain the desired level of abatement.¹³ Although these design and implementation difficulties are not necessarily insurmountable there are few current examples of successful pollution charge programs. This leads to consideration of an alternative market based approach, the tradable pollution right, also referred to as the marketable emissions permit (MEP) or the emission-trading system.

¹² Environment Canada, Reviewing the Canadian Environmental Protection Act, The Issues, #8 (Hull: Environment Canada, 1994) 8.

¹³ Supra footnote 1 at 31.

(ii) Tradable Pollution Rights

Two proposed market oriented solutions to environmental degradation involve market creation. The first entails the establishment of tradable pollution rights or marketable emission permits while the second seeks the privatization of common property resources.

Under the first proposal, the regulatory agency first establishes a cap for the amount of a particular contaminant release. This cap can be national in scope or limited to a defined geographic area. The regulator then distributes permits equal to the capped amount among the firms that emit the particular pollutant. Each permit allows its holder to emit a defined amount of the pollutant over a specified period of time. The incentive provided by the market is that for firms with high abatement costs the purchase of additional permits would be a less expensive option than abatement. Other firms, with low abatement costs would be able to sell their surplus permits. The buying and selling of permits would establish an equilibrium market price that would form the basis of future abatement decisions.¹⁴

The appeal of a marketable permit system is that all participating firms would be confronted with an explicit price when it came to using environmental resources as receptacles for unwanted releases. This price, when compared to a firm's marginal abatement cost, would determine the level of abatement effort, and in the process, would spread the abatement effort throughout the industry, thus providing a least cost solution. Moreover, the determination of the overall standard for environmental quality would

¹⁴ Marion G. Wroebel *supra* footnote 2 at 5-6.

remain in the hands of the regulator. This standard would be capable of improvement by reducing the number of available permits or by reducing the amount of pollution allowed under each permit.

The disadvantage of the system is that its utility is limited to pollution problems that implicate a small number of firms emitting an easily identifiable and measurable pollutant. The costs and complexity of implementing and administering a permit system for a large number of participants in a particular geographic area would be prohibitive.¹⁵

Canadian experience with tradable pollution rights is limited. A program to permit transfers of production, importation and consumption allocations for some controlled ozone-depleting substances was established under the Canadian Environmental Protection Act's Ozone-depleting Substances Regulations. However, applicants for a transfer must first prove the existence of unexpended allowances and then obtain approval from the Minister of the Environment.¹⁶ Such transfers therefore, are not true products of the market.

In the United States, the Clean Air Act amendments of 1990 provide for tradable pollution rights among utilities with respect to sulfur dioxide emissions. However, critics point out that the program's principal purpose is to establish a dedicated source of funding. It is also maintained that such permit fees are either uncoupled from emission levels or are not sufficiently high to affect producer behavior.¹⁷

¹⁵ Eric W. Orts, "Reflexive Environmental Law" (1995) 89 Northwestern Law Review 1227 at 1245-46.

¹⁶ Environment Canada *supra* footnote 11 at 15.

¹⁷ *Supra* footnote 1 at 31.

(iii) Expansion of Property Rights

A second market creation scheme involves the expansion of property rights. Advocates of this approach also seek to remedy the external cost of economic activity but in their judgment the problem stems from poorly established property rights. Their prescription, following the thesis of R. H. Coase,¹⁸ is to allocate property rights in the natural environment. The argument is that the extension of individual ownership to all media of the environment (air, land and water) produces a market value for this newly created property and thus furnishes an incentive for individual owners to protect their property. The basic notion underlying this approach is to transform a public resource, such as air, into a private resource, in the expectation that individual owners would become its zealous guardians.¹⁹

This idea finds support in the work of Peter Pearse.²⁰ Following Harold Demsetz,²¹ he contends that the emergence of property rights can be traced to the point at which resources become scarce and therefore valuable. Pearse asserts that the Canadian system of property rights with respect to land and natural resources reflects two historical influences: the pattern of settlement and the pattern of interest in resources. The first observation is illustrated by the fact that the earliest regions of settlement enjoy the

¹⁸ R. H. Coase, "The Problem of Social Cost" 3 *Journal of Law and Economics* 1.

¹⁹ In its current Lands for Life program the Ontario Ministry of Natural Resources is deciding the future of 46 million hectares of land within the province. When the process is complete these now all-wild areas will be either formally protected as parks or reserves or will be transferred in binding agreements to the forest industry. Environmentalists oppose the transfer of land for timber operations on the basis that it ignores considerations ranging from tourism and recreation to protecting wildlife and important gene pools as well as providing centers for scientific research and places for harvesting alternative products such as mushrooms or medicinal plants.

²⁰ Peter H. Pearse, "Property Rights and the Development of Natural Resource Policies in Canada" (1988) 14 *Canadian Public Policy*, 307.

²¹ Harold Demsetz, "Toward a Theory of Property Rights" (1967) 57 *American Economic Review*, 347.

greatest degree of comprehensive private ownership. Thus, there are more privately owned non-agricultural land and resources in the Atlantic provinces than in the more recently settled areas of Western Canada. Pearse's second contention is demonstrated by reference to the chronology of Crown land grants: the later the Crown grant, the fewer the rights conveyed. This means the more recent the grant of land, the greater the likelihood of the rights to minerals under the land, water flowing over it, wildlife and so on being reserved to the Crown. Pearse's conclusion is that whenever an economic interest developed in a particular resource the government sought to control its use. Control was gained by limiting a grantee's rights through the substitution of leases or licenses for outright grants. The result in Canada is a direct and observable correlation between the type of tenure over a resource and when the resource became economically valuable and therefore worth the effort to allocate it.²² Based on Pearse's study, the logical next step is to allocate property rights in environmental media because they are becoming scarce and valuable. The theoretical contribution of Coase is to prove that a system of precisely defined, "complete" property rights will achieve maximum efficiency in economic production through market mechanisms.

The expansion of property rights accords with other market oriented solutions because it relies on economics to cure an essentially economic problem. It has however, been subject to criticism on the basis of the lack of empirical evidence to support its claim.²³ On a more practical level, notwithstanding the thesis advanced by Demsetz and

²² Supra footnote 20 at 309-310.

²³ Supra footnote 7 at xxxiv where the authors state, "There is little empirical evidence to support these claims, and it is doubtful that the privatization of common property resources will ever be politically acceptable in Canada."

Pearse, the privatization of common property presents numerous problems with respect to the costs and difficulties of establishing, recording and enforcing the rights to property that has not previously been subject to private ownership. Moreover, historically Canadian public policy has favored a commitment to public ownership of natural resources while relying on private interests to exploit them. Although the reasons for this policy are unclear, it does prevent alienated resources from falling into the hands of speculators who could hold them off the market to the detriment of immediate development. Also, traditionally Canadian governments appear to believe that some financial advantage accrues to them by selling only the use of resources rather than the full title.²⁴

(iv) Environmental Marketing

Environmental marketing is a strategy designed to take advantage of “green consumerism” (the public desire to purchase environmentally friendly products). Distinguishing such products (those which are manufactured and packaged using methods that do not damage the environment) through special labeling is an attempt to utilize this demand force in the market to serve the interest of environmental protection. There is an attractive logic underlying such schemes: first, it increases consumer awareness of the fragility of the environment and the potential effect of purchasing decisions; and second, it induces manufacturers to modify their products and production methods in order to satisfy the demand for environmentally friendly goods.

²⁴ Supra footnote 20 at 310.

Environmental regulation targeting green consumerism can take either of two forms. It can be used to ensure the truthfulness of advertising claims concerning green products, or it can assist consumers in identifying environmentally friendly products. Gallup polls indicate that seven-in-ten Canadians have recently purchased environmentally friendly products. This figure represents a 24% increase in just two years. Additionally, 78% of Canadians responding to the poll expressed the belief that green products have a beneficial effect on the environment.²⁵

Environment Canada has responded to the demand by Canadian consumers for credible assessments of environmentally friendly products, services and technologies through its Environmental Choice Program. The primary objective of the program is to improve the environment through the substitution, in consumer markets, of approved products and services for products and services currently offered in those markets. While owned and controlled by Environment Canada, the program is delivered by a private company so that independent environmental labeling experts are able to provide the service at arm's length from government. There are 92 Environmental Choice guidelines under which products can be certified and companies licensed. Currently, over 1750 products and services from some 166 countries bear the program's symbol of certification, the EcoLogo.²⁶

There are practical difficulties in implementing an environmental marketing system such as Canada's Environmental Choice Program. Developing the criteria for

²⁵ Lorne Bozinoff and Andre Turcotte, "'Buying Green' Remains Popular" The Gallup Report (Toronto: Gallup Canada Inc., 1993) 1.

²⁶ Environment Canada, Environmental Choice (M) Program (Ottawa: Environment Canada, 1997).

determining which products are “green” is not an exact science. Generally, criteria are established by reference to a product’s impact on the environment throughout its existence (a life-cycle analysis). Unfortunately, such an assessment often involves an element of value judgment. Moreover, what constitutes harm to the environment may also be at issue. For example, in the European Community, Germany, the Netherlands, Denmark and Italy all have banned phosphate detergents whereas they are allowed in the United Kingdom, France and Spain. This raises the point that a product’s “greenness” may depend on the location of its testing and use. The environmental impact of laundry detergents depends to some extent on how much of the product must be used to achieve acceptable results. This in turn is contingent on the hardness of the water which varies from one location to another.

C. Problems with Acceptance

Despite the economic logic of market oriented environmental policy as an alternative, or even a complement to command and control environmental regulation, it has been unable to gain a broad base of support. Among the reasons for this scarcity of interest is a general distrust of economics. While held out to be a neutral methodology, some critics point out that economics has its own unstated assumptions, value judgments and ethical presumptions. Lacking its own value system, economic theory assumes that a

positive market outcome is a desirable goal, that all environmental damage is compensable and that results dictated by the market are universally satisfactory.²⁷

The chief attraction of the market is its efficiency, defined by economists as attainment of the lowest feasible price for goods and services. Advocates of market based environmental protection assert that by factoring in the environmental cost of economic activities an optimal amount of pollution will result and the goal of efficiency will be achieved. This however presupposes the existence of an optimal level of pollution and that its effects, including the impact on human health and subjectively determined matters such as aesthetics, can be assigned a specific monetary value.

A second reason for skepticism is that the typical command and control prohibition enjoys a high symbolic value and therefore is more politically appealing than an environmental charge. A pollution tax or charge has much less symbolic value since it appears to concede that the pollution generating activity need not be terminated nor even reduced. For this reason environmentalists tend to characterize market based approaches as “licenses to pollute” based on the belief that such systems legitimize pollution by purporting to sell the right to pollute.²⁸ A current example of this practice is the criticism attracted by the tentative emissions trading agreement struck between Suncor Energy of Alberta and Niagara Mohawk Power Corporation of Syracuse, New York pursuant to the Kyoto Climate change conference of December, 1997.²⁹ At the Kyoto climate change

²⁷Elaine L. Hughes, “Government Response to Environmental Issues: Institutional Inadequacies and Capacity for Change” 1 *Journal of Environmental Law and Protection* (1992) 51 at 55.

²⁸ Robert N. Stavins and Bradley W. Whitehead *supra* footnote 1 at 10-11.

²⁹ Bryant Avery and Rod Ziegler, “Alberta Company Buys Right To Pollute” *The Ottawa Citizen* March 6, 1998, p. A2; see also Andrew Duffy, “Hydro Eyes Landfill Air Pollution Credits - Talks Under Way With Municipalities To Help Utility Offset Its Greenhouse Gas Emissions,” *The Ottawa Citizen* August 27, 1998 p.C5.

conference, representatives from 150 nations agreed to set targets to reduce international carbon dioxide and other greenhouse gas emissions to below 1990 levels by 2010. Niagara Mohawk is currently 50 percent below its 1990 level of emissions. If an international marketable permit system is established it will have emission credits to sell. Suncor, while maintaining that it has a solid track record in reducing greenhouse gas emissions, admits it will have difficulty meeting the Kyoto targets and therefore is interested in purchasing Niagara Mohawk's potential emission credits. The net effect would be a reduction in total emissions without a loss of production. However, critics prefer to characterize the transaction as the purchase of a right to pollute by Suncor while ignoring the net environmental benefits of the arrangement.

Another source of resistance is the entrenched environmental bureaucracy whose *raison d'être* and expertise would be challenged by a shift from command and control to market based forms of environmental protection. In principle, a pollution tax or charge is impersonal, that is, all sources of a particular pollutant pay the same price per unit of discharge of the pollutant. While this is a desirable marketlike characteristic it has the effect of taking away an element of discretionary power from the bureaucracy administering the pollution control program. Some studies conclude that bureaucracies prefer strict laws which induce regulated entities to enter into negotiations for exemptions. The process of negotiation requires a large staff and therefore increases the prestige of senior bureaucrats. It also permits the administrative agency to bargain for concessions it deems important in the pollution control process.³⁰ Lobbyists, from both

³⁰ See for example, Michael J. Trebilcock, Douglas G. Hartle, J. Robert S. Pritchard and Donald N. Dewees, The Choice of Governing Instrument (Ottawa: Supply and Services Canada, 1982) at 93-94.

environmental associations and the business sector also oppose changes to the command and control system. Their reluctance is similarly based on the prestige gained from their familiarity with, and expertise in influencing the existing system.

Another reason is overtly political. Command and control regulation typically imposes more stringent standards on new plants than on those already in existence. This barrier to entry confers a financial benefit on existing firms who are identifiable and have some voice in the political process while future entrants are generally not identified and currently have no voice. In contrast, the establishment of a pollution tax or charge imposes a dramatic cost on most existing firms while conferring a benefit on as-yet-identified, potential entrants. This is a much less politically attractive alternative than maintaining the traditional approach despite the technical efficiency of a pollution tax.³¹

The final and perhaps most difficult obstacle to acceptance of market based approaches is that they directly or indirectly entail new taxes. In the economic climate of the 1990s any scheme which increases the tax burden is certain to encounter strong opposition.

D. Conclusion

The difficulty encountered in applying the traditional command and control regulatory approach to the environment is a specific example of the general problem of ineffectiveness plaguing current regulatory regimes. Three prescriptive, strategic models

³¹ Ibid. at 94.

have emerged in response to this failure of law.³² The first, labeled “re-formalization”, is a reaction to the economic and social costs of traditional regulation. Advocates of the re-formalization model view state intervention in the market as a bar to the attainment of allocative efficiency. They assert that law’s function is merely to provide a framework for a sphere of autonomous activity with fixed boundaries to protect the property rights of private actors. This position is an obvious retreat from the substantive, goal-orientation observed in current law. In practical terms it entails an abandonment by law of its regulatory functions. In the context of environmental law the call for re-formalization (or deregulation) is not a viable alternative to the use of command and control regulation since both government and the public deem environmental protection to be an essential societal goal.

A second strategic model, exemplified by the market based regulatory style, is known as the implementation approach. Its proponents, critical of the suitability of law as an instrument of social control, seek to enhance the regulatory efficiency of law by importing economic analysis. Prima facie, market-oriented regulation appears to represent an advance on the traditional approach because it attempts to appeal to the internal logic, that is the economics, of regulated systems. Despite the logic of economic theory there is a general distrust of the market’s capacity to solve problems created by the market. Additionally, there are serious design and implementation issues to be overcome before market-oriented regulation can play a significant role in environmental protection.

³² Gunther Teubner, “After Legal Instrumentalism? Strategic Models of Post-Regulatory Law” in Gunther Teubner (ed.) Dilemmas of Law in the Welfare State (Walter de Gruyter: Berlin, 1986) 299 at 305-307.

The third alternative, a systems theoretic approach advocated by Gunther Teubner, defines the current failure of regulation in terms of incompatibility among the internal logics of different social systems. The legal reticence of Teubner's prescribed remedy is meant to relieve law of the onus of direct regulation in favor of a more abstract and indirect control of self-regulatory processes. The role of law shifts therefore, from the planning implicit in both the command and control and market based regulatory styles, to one of finding ways to influence the evolution of self-regulating processes within other social systems.

In the following chapter Teubner's elaboration of the evolution of modern law and his explanation of an emerging legal rationality, which he describes as reflexive, are examined in terms of exploring a potential new direction for environmental regulation.

Chapter 4 From Planning to Evolution: Reflexive Law

Canada's difficulty with respect to the legal regulation of the environment is a microcosm of what more generally falls under the rubric of the "dilemmas of law in the welfare state."¹ Recent debates concerning law's ineffectiveness as an instrument of social control "do the rounds under a variety of exotic headings," such as "post-modern law, post-interventionist law, proceduralized law, neo-corporatist law, ecological law [and] mediating law"² or, as Gunther Teubner describes it, reflexive law. This section presents Teubner's conception of reflexive law and makes use of it first, to offer an explanation for the difficulty of achieving effective environmental protection through the substantively oriented law characteristic of the modern welfare state, and second, to lay the groundwork for a potentially more fruitful alternative that emphasizes the importance of procedure rather than the substantive content of regulations. The notion of responsive regulation, as formulated by regulation scholars Ian Ayres and John Braithwaite, is described in terms of its congruence with reflexive legal strategy and is subsequently incorporated into a proposal for a new strategy for the legal regulation of the environment in Canada.

A. Background

Strategies of intervention, designed to impose the public interest upon a capitalist

¹ Gunther Teubner (ed.), Dilemmas of Law in the Welfare State (Berlin: Walter de Gruyter, 1986).

² Gunther Teubner, Law As An Autopoietic System (Oxford: Blackwell Publishers, 1993) 66.

economic system, both describe and define the “transformation of a ‘government of laws’ into the modern welfare state.”³ Since the 1960s and 1970s the governments of most industrialized countries, including Canada, have taken over many distributive and allocative functions in an attempt to guarantee certain minimal conditions of life to the socially weak. Within this context, law is used by government as an instrument to impose social and political imperatives on the economy. Environmental regulation is a leading example of such socially oriented regulation. In the welfare or regulatory state, law necessarily takes on a substantive, purposive function and becomes goal oriented in order to improve upon market determined allocations of resources and to afford protection to the environment. The underlying idea is to transform capitalism without abolishing it and to take advantage of the efficiency of market economies without being subject to their failures, like externalities.⁴ The difficulty encountered in using law to achieve desired social and political goals constitutes the dilemma of law in the welfare state.

Writing against the background of “disenchantment with the goals, structures and performance of the regulatory state” and the “general concern with the effects of welfare-regulatory intervention,”⁵ Gunther Teubner characterizes the movement to substantive modes of legal thought and practice in the welfare-regulatory state as a “crisis” of legal and social evolution. In order to present the situation in context his analysis of the interaction of law and society is self-consciously evolutionary and builds upon previous

³ Norbert Reich, Reflexive Law and Reflexive Legal Theory: Reflections on Post-Modernism in Legal Theory (Bremen: University of Bremen, 1988) I.

⁴ Ibid.

⁵ Gunther Teubner, “Substantive and Reflexive Elements in Modern Law” (1983) 17 *Law and Society Review* 239 at 257.

neo-evolutionary work by Phillipe Nonet and Phillip Selznick⁶ in the United States and Niklas Luhmann⁷ and Jurgen Habermas⁸ in Germany. Teubner notes that although they have different starting points, his predecessors deal with the same problem, namely the crisis of formal legal rationality. Formal rationality is the hallmark of modern law and the shift away from it (or the “rematerialization of law”⁹) is evidenced by the increasing “‘legalization’ of various spheres of social life.”¹⁰

In arguing against the idea that law affects society in a simple linear fashion and that social relationships can be comprehensively shaped by political means through law Teubner develops a concept he labels reflexive law. This conceptualization presents a new analytical framework for probing the relationship between law and society which not only provides valuable insight into the reasons for the regulatory failures of substantive law but also points to a theoretical solution.

B. Reflexive Law

(i) Background

Prior to Teubner’s work the term “reflexive law” was not found within the vocabularies of legal theory, legal sociology or legal doctrine. The concept signifies less a theory of law than a new way of legal thinking which focuses attention on the “legal regulation of autonomy.”¹¹

⁶ Phillipe Nonet and Philip Selznick, Law and Society in Transition: Towards Responsive Law (New York: Harper, 1978).

⁷ Niklas Luhmann, The Differentiation of Society (New York: Columbia University Press, 1978).

⁸ Jurgen Habermas, Legitimation Crisis (Boston: Beacon Press, 1975).

⁹ Supra footnote 5 at 240.

¹⁰ Ibid.

¹¹ Supra footnote 2 at 70.

Legal theorists employ a variety of perspectives to develop intelligible accounts of the relationship between law and society and the way in which they interact. One such viewpoint, used by Teubner, is systems theory. From a systems theoretic standpoint society is seen as comprising a multiplicity of subsystems such as law, economics, politics, science, religion and so on. Traditional conceptions of these subsystems see them as “closed” and highlight the internal components of the system in order to identify its emerging properties. Modern notions of subsystems consider them to be “open,” that is law for example is seen as adapting to, and at the same time shaping the social environment.¹² Both command and control regulation and the newer, market based proposals for environmental regulation appear to rely upon a linear vision of open systems in assuming that politics can use law instrumentally to effect desired changes in the economic system. Reflexive law offers an alternative vision of social subsystems which, by taking account of their increasing complexity, posits that they are neither wholly open nor completely closed. This means law must find an alternative to direct commands as a means of influencing behavior in other systems.

Today many systems theorists believe that as society evolves it becomes more and more complex through “differentiation,” a process whereby different semi-autonomous subsystems develop within society. Teubner observes that:

Different lines of thought about modern society converge on [an] important point. A general discourse on society is, more than ever before, confronted with “a dissociation of its rules systems” [Lyotard], a multitude of “language games” [Wittgenstein], and a plurality of “semiotic groups” [Jackson]. Sociologists characterize modernity as the “separation of spheres” [Selznick], the differentiation of the “subsystems of society” [Parsons], the “operational closure of autopoiesis” [Luhmann], and the plurality of the “forms of discourse and negotiation” [Habermas].¹³

¹² Gunther Teubner, “After Legal Instrumentalism? Strategic Models of Post-Regulatory Law” in Gunther Teubner (ed.) *Dilemmas of Law in the Welfare State* (Berlin: Walter de Gruyter, 1986) 299 at 308.

¹³ Gunther Teubner, “The ‘State’ of Private Networks: The Emerging Legal Regime of Polycorporatism in Germany” 1993 Brigham University Law Review 553 at 556.

This insight confounds the current notion of subsystems as completely “open” and sharing the capacity to exert direct influence over one another since the process of differentiation includes the development of a specialized logic or discourse within each semi-autonomous unit. Communication between and among subsystems is thus rendered difficult, or even impossible and therefore “differentiated” subsystems are less susceptible to direct intervention. This poses a challenge to the role of law as a central integrating institution. As a research strategy some theorists, most prominently Niklas Luhmann¹⁴ and Gunther Teubner,¹⁵ have introduced autopoietic theory to their systems theoretic analysis. Imported from biology, autopoiesis is a concept employed metaphorically to gain new insights into society and its major subsystems. It is concerned with self-organization (or auto-determination) and derives from the work of Chilean biologists Humberto Maturana and Francisco Varela in the areas of neurophysiology and perception.¹⁶ A cell, for example, is constantly absorbing heat, water and nutrition from its environment and expelling waste matter, yet its system remains unaltered by these processes.¹⁷

A current debate among legal theorists concerns the status of law as either autonomous and self-referring (a closed system) or derivative of its sociocultural setting

¹⁴ Niklas Luhmann, “The Self-Reproduction of Law and Its Limits” in supra footnote 1 Gunther Teubner (ed.) Dilemmas of Law in the Welfare State.

¹⁵ Supra footnote 2.

¹⁶ Humberto Maturana and Francisco Varela, “Autopoiesis and Cognition: The Realization of the Living” in Robert S. Cohen and Marx W. Wartofsky (eds.) Boston Studies in the Philosophy of Science (Dordrecht: D. Reidel Publishing, 1980). The word “autopoiesis” is coined from the Greek, “auto” (self) and “poiesis” (creation; production) and is used to describe systems that maintain their defining organization despite perturbation and structural change, while regenerating their components during the course of their operation. In biology an autopoietic system acquires the material to replace its components from outside the system, but despite the constant material turnover of components the system maintains a continuity of pattern.

¹⁷ Peter Kennealy, “Talking About Autopoiesis - Order From Noise?” in supra footnote 1 at 356.

(an open system). Luhmann and Teubner are the chief advocates of interpreting the legal system as an autopoietic entity, that is, a system which is simultaneously open and closed. The hallmark of an autopoietic system is the relationship between its closure and openness.¹⁸ It is closed in the sense that its constitutive elements both produce and are reproduced by it, but it remains open to its environment, composed of the other social subsystems, because the form in which the system reproduces itself takes account of activity and behavior in its environment.¹⁹ In claiming the legal system as an autopoietic entity Teubner explains that the system is operatively closed yet cognitively open (or inwardly closed yet open to its environment). This means the acts of communication which constitute the legal system and that are concerned only with legality and illegality, reproduce themselves as legal acts by means of legal acts. Its self-reproduction is therefore closed. In its operations however, the legal system constructs a “legal reality,” which is an internal model of the external world. This construction is the basis of its cognitive openness.²⁰ The result, according to Teubner, is “that external changes are neither ignored nor directly reflected according to a ‘stimulus-response scheme.’ Rather, they are “selectively filtered into legal structures and adapted in accordance with a logic of normative development.”²¹

(ii) A Reflexive Explanation for the Difficulties of Environmental Regulation

Teubner stresses an important implication of the relationship between openness

¹⁸ Supra footnote 2 at 65.

¹⁹ Richard Lempert, “The Autonomy of Law: Two Visions Compared” in supra footnote 1 at 153.

²⁰ Supra footnote 2 at 70.

²¹ Supra footnote 5 at 249.

and closure within a system. We must change our view of legislation as a transmitter of information to social spheres for "[i]t is not legislation which creates order in the social subsystems. It is the subsystems themselves which deal selectively with legislation and arbitrarily use it to construct their own order."²² To an autopoieticist this creation of "order from noise" is evidence that a social subsystem experiences legislation as "noise" (or external interference) which is interpreted through the filter of the particular subsystem's norms, values and ideologies in such a way that only those components of the "noise" which contribute to order in the system are selected by the system.²³ This self-referential quality of social subsystems is the basis of their resistance to external forms of regulation.

In terms of environmental regulation this means that neither the current form of regulation, that is the command and control approach, nor proposed market based alternatives directly affect the behavior of their intended targets as is posited by current legal theory. Law, or more precisely, legal regulation, is only one of a number of factors including the cost of compliance with regulations, consumer demand and market competition, environmental group pressure, rulings by courts in environmental cases, ethics and morality, public opinion and media attention, that influence activity in the economic sphere. Hence Teubner concludes that, "the autonomy of social subsystems...rooted in self-referential relationships, makes them inaccessible to direct legislative intervention" and therefore, "[O]nly indirect intervention is possible...."²⁴

²² Supra footnote 2 at 74-75.

²³ Ibid. at 75.

²⁴ Ibid. at 77; Teubner reduces the problem to the question: "How are we to break out of the circle of the law through legislation and penetrate the closed circle of social worlds?"

As a consequence of this assertion Teubner insists that successful regulation demands a threefold compatibility among the regulating systems - law and politics - and the system targeted for regulation. Compatibility is achieved when all three systems, during their interaction, maintain their self-producing interaction of elements. Absent such compatibility, regulation is doomed to failure under one of three scenarios identified by Teubner as the “regulatory trilemma.”²⁵ The first, referred to as the “incongruence” of law, politics and society maintains that regulatory action is unable to effect change in the targeted system unless it takes account of the self-reference of the regulated system. Regulatory action that fails to do so, for example, ignoring the economic costs of regulation, is simply irrelevant to the interaction of the regulated system’s elements. A second reason for regulatory failure is attributable to the “over-legalization” of society which means that law over-influences the internal interactions of elements in the regulated field to a degree that threatens its self-producing organization. Such regulatory action may follow a functional logic but it is insensitive to its unintended or un contemplated side effects. In environmental law, this is exemplified by phenomena such as expanding the personal liability of corporate directors to the point at which “directors’ chill” sets in. The final instance of regulatory failure explained by Teubner is the “over-socialization” of law. This situation puts the self-producing organization of law at risk while the self-producing organization of the regulated area remains stable. Law thus becomes subject to capture, either by politics or by the regulated field. The over-socialization of law manifests itself in variety of ways, for example, law may become

²⁵ Supra footnote 12 at 309-310.

merely a political instrument lacking in internal coherence because it follows only political imperatives.

(iii) The Emergence of Reflexive Law

In Teubner's view the works of his predecessors all share the attempt to identify different types of law, to document the shift from one type to another, to offer reasons for the transitions and to predict the movement of law towards a new type of rationality. His own account of legal evolution is summarized in the following table.²⁶

	Ideal Types		
Dimensions	Formal	Substantive	Reflexive
Justification of Law	The perfection of individualism and autonomy: establishment of spheres of activity for private actors.	The collective regulation of economic and social activity and compensation for market inadequacies.	Controlling self-regulation: the coordination of recursively determined forms of social cooperation.
External Functions of Law	Structural premises for the mobilization and allocation of resources in a developed market society and for the legitimation of the political system.	The instrumental modification of market-determined patterns and structures of behavior.	Structuring and restructuring systems for internal discourse and external coordination.
Internal Structures of Law	Rule-orientation: conceptually constructed rules applied through deductive logic.	Purpose-orientation: purposive programs of action implemented through regulations, standards, and principles.	Procedure-orientation: relationally oriented institutional structures and decision processes.

²⁶ Supra footnote 5 at 257.

Teubner asserts a sequence in the structure and function of modern legal rationality and identifies each with an ideal type of law, first formal, followed by substantive and finally, reflexive. Each stage is distinguished by reference to the trichotomy of justification of law, its external functions and its internal structure.²⁷

(a) Formal Rationality

Historically Teubner's first stage of legal development corresponds with the appearance and growth of the capitalist state. Law is justified by reference to the values of individualism and autonomy and the creation of spheres of activity for private actors. The focus of law underwritten by formal rationality is the rule oriented resolution of private disputes based on the understanding that the establishment of formal rules is the most effective way to solve society's problems. The external social function of law is to provide the structural premises for the development and allocation of resources in a market society. At the same time, the apparent neutrality and autonomy of law provide legitimation for the legal and political systems in capitalist societies.

The interaction of law's justification with its external function are determinants of its internal structure. Teubner's version of formal law is characterized by a rationality which furnishes the basis for rule oriented deductive legal thinking. Legal processes are oriented to the creation of consistent decisions, and the decisions themselves are crafted to reinforce the notion of the consistency and predictability of legal decisions. Concepts

²⁷ Ibid. at 251-257.

such as *stare decisis* and *ratio decidendi* are important elements of this type of system. Two additional indicia of formal legal rationality are professionalism with respect to legal knowledge and the universal application of law.

(b) Substantive Rationality

The second stage of legal development in Teubner's schema is identified with the appearance of the welfare state and the concomitant increase of state intervention in market structures. The justification for the transition to substantive rationality is the perceived need to regulate economic and social activities in order to compensate for market inadequacies. Law therefore is used to attain "specific goals in concrete situations" and tends to be "more general and open-ended" yet "more particularistic" than formal law.²⁸ Externally this means that law shifts its focus from autonomy to regulation as it seeks to alter market determined patterns of behavior. Law becomes aggressively instrumental in order to determine outcomes.

Internally, the structures of law become purpose oriented as programs of action are applied through regulations, standards and principles frequently overseen by legislative agencies exercising delegated authority.

(c) Reflexive Rationality

Teubner's third stage of legal development in modern society is imbued with a reflexive rationality which holds self-regulation as an ideal and seeks to promote and

²⁸ Ibid. at 240.

guide it. In its external function law is concerned with creation of the structural premises necessary for self-regulative processes rather than attempting to provide content to solutions. In Teubner's view, law has only "to decide about decisions, regulate regulations and establish structural premises for future decisions in terms of organization, procedure and competencies."²⁹

Internally, reflexive rationality shifts legal thinking from its substantive orientation towards a procedural orientation.³⁰ The legal control of social activity under a regime of reflexive rationality becomes indirect as the legal system seeks only to determine the organizational and procedural basis of future action rather than attempting to dictate the outcome of future action. The transition involves a shift from the planning characteristic of substantive law to attempting to influence the evolution of other social systems.

In these processes of adjustment the role of law is not the aggressively instrumental role of command and control regulation, rather, law is "limited to providing forms of organization, procedures and competencies for relationships within and between organizations."³¹

(d) Reflexive Law Defined.

In his neo-evolutionary analysis of the rationalities underlying the development of modern law Teubner rethinks welfare state claims to intervention. He begins with the

²⁹ Ibid. at 275.

³⁰ The "procedure orientation" of law or "proceduralization of law" is easily misunderstood. It is not to be confused with procedural law and it does not mean that reflexive legal strategies are without content. Teubner's theory of reflexive law does not eliminate the need for substantive legal norms, instead it focuses on the limitations imposed on law by the differentiation of society and limits itself to channeling decision making processes and social communications, see Teubner *supra* footnote 2 at 66-67.

³¹ *Supra* footnote 2 at 96.

observation that social processes and economic arrangements are “simply too dense, complex and potentially contradictory”³² for the current mode of interventionist control mechanisms to be effective. He analyses the legal system in terms of its function, performance and reflection. The function of law is defined as its ability “to provide congruent generalizations of expectations for the whole of society” while its performance is the resolution of conflicts originating in other social subsystems and which cannot be resolved there. The role of reflection in the legal system is described as reconciling the inherent tensions between function and performance (because they have the potential to conflict and overlap) by imposing internal restrictions on its own capacities. This is best done by imposing restrictions on the legal performance dimension. His conclusion is that in order to be an effective instrument of social control, law must reject the comprehensive regulation of substantive legal rationality in favor of restricting legal performance (as opposed to legal function) to “more indirect, more abstract forms of social control.”³³

Therefore the primary role for reflexive law is one of coordination.³⁴ Instead of assuming responsibility for concrete social results (as in substantively oriented approaches to the role of law), law restricts itself to “regulating regulations”³⁵ by “structuring mechanisms for self-regulation.”³⁶

Reflexive law thus has a dual character since it is self-referential in two ways: first, it engages in a self-referential critique that recognizes its own limitations in confronting

³² Supra footnote 5 at 268.

³³ Ibid. at 273-274.

³⁴ Ibid. at 242.

³⁵ Ibid. at 275.

³⁶ Ibid. at 251. Teubner further describes this idea as aiming at “enablement and facilitation” rather than “comprehensive regulation.”

the increasingly complex problems of modern society; and second, it seeks to encourage the structure of self-referential processes in other social systems. The solutions offered by reflexive law center on transferring the burden of direct regulation to the internal structures of other social systems. This is accomplished by proceduralization. Instead of dictating acceptable patterns of behavior through prolix and extensive micro-regulation, reflexive law sets out procedures for regulated entities to follow. The objective is to encourage other social subsystems to reflect on the tensions between their function and performance. In this way, they will become self-regulating.³⁷

In other words, reflexive law neither determines the social function of other subsystems nor regulates their input and output performances. Instead, its more modest goal is to foster mechanisms to further the development of reflection structures within other social subsystems.³⁸

(e) Reflexive Legal Solutions

As a prescription to the barrier imposed by the dual autopoietic closure of law and society, which in turn leads into the regulatory trilemma, Teubner advances several forms of (reflexive) indirect intervention including “coupling through interference” and “communication through organization.”³⁹

In autopoietic theory the term “structural coupling” is used to describe the ongoing mutual engagement and co-adaption of systems that results in structural changes in each.

³⁷ In Teubner’s words, “Law realizes its own reflexive orientation insofar as it provides the structural premises for reflexive processes in other social subsystems”. Ibid. at 274.

³⁸ Ibid.

³⁹ Supra footnote 2 at 77.

In explaining “coupling through interference,” Teubner defines interference as a “bridging mechanism” whereby “social systems get beyond self-observation and link up with each other through one and the same communicative event.”⁴⁰ His interpretation of coupling is illustrated by reference to judicial decisions that both alter the legal situation and provide a reference point for further legal communications.⁴¹ Thus, the judicial pronouncement, “The defendant is fined \$ x,” indicates a change in the legal situation of the defendant and also serves as a reference point for other legal communications, such as commencing the appeal process. At the same time, this is a social communication that may be understood differently or even misunderstood outside the legal system. The advantage of law is that it increases the probability of a communication being accepted, because in the legal system a norm is either valid or invalid. This means the question of the legal validity of an expectation is clear. However the social validity of a legal norm is not so clear. As Teubner observes, the interference of legal and social norms “transforms their validity from a question of ‘either or’ to one of ‘more or less.’”⁴² This illustrates law’s difficulty in directly penetrating and influencing other social subsystems.

Teubner displays more faith in communication through organization. His explanation of this process recognizes that the major subsystems of society are incapable of collective action. Formal organizations within these various subsystems, as collective actors with some power over their members, do however have the ability to communicate among themselves across their respective boundaries. This leads to a form of “inter-system relationships” which themselves become autonomous, and includes “discussion

⁴⁰ Ibid. at 86.

⁴¹ Ibid. at 88.

⁴² Ibid. at 90.

groups, collective bargaining, interrogation procedures and concerted action.”⁴³ The process of communication through organization provides access, although on an indirect basis, to the central mechanisms of self-regulation located within the various subsystems. This is a core concept of autopoietic theory. Thus politics for example, “gains access to the central control mechanisms of firms, trade unions and interest groups.”⁴⁴

C. Environmental Law as Formal and Substantive Law

The trajectory of environmental law is illustrative of Teubner’s first two types of modern law. In terms of law underwritten by formal rationality, the law of nuisance has long been used to resolve disputes and formal principles have emerged and been refined over time. While it can be invoked in pollution cases, nuisance law is afflicted with several serious limitations. First, because of its very formality and adherence to rules it often presents a plaintiff with the difficulty of demonstrating that his/her complaint is “particular, direct and substantial, over and above the injury inflicted upon the public in general.”⁴⁵ Thus, for example, when a whaling company erected a factory at Watering Cove on Big Grady Island and polluted the waters adjacent to the premises of a fishing establishment, the plaintiff fishing enterprise was precluded from recovering damages in nuisance. The (formal) rationale was that the loss was merely consequential (as opposed to direct) damage resulting from the nuisance. Further, the plaintiff’s loss was not

⁴³ Ibid. at 95-96.

⁴⁴ Ibid. at 96.

⁴⁵ McRae v. British Norwegian Whaling Co. Ltd. [1927-31] Newfoundland Law Reports 274 at 283-4.

peculiar to the plaintiff but was suffered in common with everyone else whose right to fish in the subject public waters was affected by the nuisance.

Similarly, a plaintiff fisherman was unable to demonstrate a cause of action against a utility company that had discharged poisonous materials into the waters of Placentia Bay thereby polluting the waters, poisoning fish and rendering them of no commercial value.⁴⁶ The plaintiff was not able to “pin-point” his damages and since his damage was common to all persons of the same class (and therefore not peculiar to him) his personal right of action was not maintainable.

In addition to the foregoing sampling of problems presented by formal rules, actions in nuisance are generally confined to a small number of parties. Therefore there is no occasion for the court to consider the broader consequences of particular factual situations which may affect the general public. The limitations of (formal) nuisance law combined with a growing public environmental awareness are important factors in the development of current (substantive) statutes and regulations designed specifically to address environmental problems.

As previously detailed Canada has developed a large body of substantive law to address environmental issues. Instead of exclusive reliance on individuals to litigate their claims under a formal (nuisance) law regime, environmental protection is now a public concern handled by regulatory agencies administering a plethora of new (substantive) laws and regulations. The difficulties in attempting to solve increasingly complex social problems by recourse to an ever expanding body of substantive law can be reduced to two

⁴⁶ Hickey v. Electric Reduction Co. of Canada (1970) 21 Dominion Law Reports (3d) 368.

global issues. First, the juridification issue, which in Teubner's terms occurs when "the complexity of socio-economic processes" reach "the cognitive limits of our mechanisms of political-legal control,"⁴⁷ and leads to the myriad problems associated with "too much law" as previously enumerated. The second issue has a normative basis. As substantive law expands, it necessarily delegates a commensurate amount of discretion to administrative agencies to make and enforce the law. In effect, regulatory agencies exercise legislative power which "unbinds substantive law from the legitimating democratic procedures of legislation."⁴⁸

The central argument of this paper is that Canada's environmental law regime, having evolved from its early formal rationality to a new substantive orientation, must take the next step to capitalize on the reflexive rationality identified by Teubner. The goal is to enhance the effectiveness of environmental regulation by introducing a measure of compatibility to the interactions between regulating and targeted systems. The recommended method to achieve compatibility is to forgo direct regulation in favor of proceduralization, that is, to establish only the parameters (or structural basis) for future action in the targeted system. The idea is to stimulate the reflective dimension within the particular system to mediate between its function and performance in a way that attaches greater awareness of and concern for the system's external effects on the natural environment. This less direct regulatory approach appears in the model of enforced self-regulation developed by Ian Ayres and John Braithwaite.

⁴⁷ Supra footnote 5 at 268.

⁴⁸ Eric W. Orts, "Reflexive Environmental Law" 89 *Northwestern University Law Review* (1995) 1227 at 1259.

D. Responsive Regulation

In an effort to transcend the regulation versus deregulation debate two prominent scholars in the regulatory research community formulated a version of regulation that they describe as “responsive”. To Ian Ayres and John Braithwaite a responsive approach to regulation is:

[D]istinguished (from other strategies of market governance) both in what triggers a regulatory response and what the regulatory response will be. We suggest that regulation be responsive to industry structure in that different structures will be conducive to different degrees and forms of regulation. Government should also be attuned to the differing motivations of regulated actors. Efficacious regulation should speak to the diverse objectives of regulated firms, industry associations, and individuals within them. Regulations themselves can affect structure (e.g., the number of firms in the industry) and can affect motivations of the regulated.⁴⁹

This description sets out three key concepts in the Ayres/Braithwaite formula. First, the nature of regulation should be consonant with the nature of the particular industry targeted for regulation and with the public policy goals underlying the need for regulation. Therefore the role of regulation is not limited to imposing standards, and applying sanctions and penalties (the response that is triggered under the command and control style) for the breach of regulatory standards (the trigger for the regulatory response). By implication the second element is that government regulation should be integrated with existing governance mechanisms in the regulated industry. Lastly, they recognize the need to alter the structure of the targeted firm or industry so that the objectives of the regulatory program are internalized. Their strategy relies upon permitting firms and industries to translate the underlying policy objectives into self-

⁴⁹ Ian Ayres and John Braithwaite, Responsive Regulation (New York: Oxford University Press, 1992) 4.

generated guidelines and rules which then govern the way in which the firm or industry performs.⁵⁰

Ayres and Braithwaite describe a specific model which they refer to as “enforced self-regulation”:

[T]he government would compel each company to write a set of rules tailored to the unique set of contingencies facing that firm. A regulatory agency would either approve these rules or send them back for revision if they were insufficiently stringent...Rather than having governmental inspectors enforce the rules, most enforcement duties and costs would be internalized by the company, which would be required to establish its own independent inspectorial group.⁵¹

In this model Ayres and Braithwaite explicitly reject the simplistic stereotype of business actors as profit maximizers. By creating a structure for corporate actors to develop their own guidelines within government defined parameters they hope to appeal to internal mechanisms of control motivated by business responsibility, ethics, obligations to abide by the law and to take account of the interests of non-shareholding stakeholders.⁵²

Effective communication between regulators and regulatees is also an essential feature of the program. As Ayres and Braithwaite point out:

The regulatory culture advocated seeks to modify the deliberative habits and behavioral dispositions of actors, not just to tinker with payoffs of actors whose psychology is untouched. Through mobilising social disapproval against those who sell out to cheaters and those who are unreasonable with cooperators, the regulatory culture seeks to foster an internalization of a concern for the other player that is in the public interest.⁵³

The emphasis on communication stands in contrast to the sporadic and often adversarial nature of communications between regulators and those subject to regulation under traditional command and control regimes. The idea is to promote a trustful relationship

⁵⁰ Ibid. at 40-41 and 110-116.

⁵¹ Ibid. at 106.

⁵² Ibid. at 22.

⁵³ Ibid. at 93.

among the participants.

An element of state enforcement is introduced through the application of a “regulatory enforcement pyramid.”⁵⁴ The pyramid is structured so that most regulatory action occurs at its base where industries are motivated to participate in forms of self-regulation. Lack of industry cooperation leads to an escalation of enforcement measures which range from warning letters through criminal prosecutions to permanent revocation of operating licenses. Their strategy allows the regulating agency to escalate penalties in a way that responds to the degree of non-cooperation exhibited by a regulated firm or industry.

The strongest links between Teubner’s account of reflexive law and the Ayres/Braithwaite notion of regulation is the shared recognition of the limits of law as a tool to regulate behavior and their emphasis on self-regulation. The Ayres/Braithwaite model has the potential to make use of Teubner’s vision of reflexive law in several ways. First, the model incorporates a legal reticence in that it recognizes the limitations of using law to set behavioral standards for other complex social systems. Instead of detailing requisite behavior this regulatory model provides a procedure for firms, or even entire industries, to draft rules in accordance with officially established parameters. This is the reflexive point in the Ayres/Braithwaite conception of regulation. Within the defined parameters firms are permitted to make their own choices with respect to the tradeoffs necessary to reconcile their goals with the public policy objective. In the working out of

⁵⁴ Ibid. at 35-38.

the requisite tradeoffs, the self-referential aspect of the firm or industry is triggered so that the reflective dimension reconciles the conflict between function and performance to take greater account of its external effects. The policy goal of the regulatory regime, for example the need for environmental protection, is internalized by the system within a framework that requires continuous communication among all those involved. Allowing firms to write their own rules relieves law of the onus of direct regulation, which includes the high costs associated with information gathering and the drafting of regulations. It also encourages both self-reflection and self-criticism within the decision making processes of the firm since it compels consideration by the firm of its external effects. The likelihood of acceptance of the rules and guidelines is enhanced by the fact that they are self-generated. The performance of law in this model is restricted to guiding the process of self-regulation rather than providing a detailed scheme of regulations to be rigidly followed. Communication is encouraged by including the necessity of official approval for the rules of conduct.

The second point of convergence between the Ayres/Braithwaite model and a reflexive strategy is that requiring firms to draft rules and to be subject to “a publicly monitored private enforcement of these rules”⁵⁵ relieves law of other burdens inherent in a traditional command and control regulatory regime, such as the large staffing requirements and costs of monitoring and enforcing agency imposed rules. Some of the onus of direct regulation is transferred to the internal structures of the regulated firm or industry. Within this model, the public monitoring of the private enforcement of rules

⁵⁵ Ibid. at 116.

could take the form of auditing by the appropriate regulatory agency of (firm or industry) self-reporting in much the same way as tax returns are subject to official (state) review and assessment. The existence of the enforcement pyramid, while unconnected to reflexive legal strategies, promotes compliance by ensuring the regulatory agency has an appropriate response mechanism to deal with transgressors.

Any attempt to “regulate regulations” in the Canadian environmental law regime should address the contextual background of environmental problems in Canada while being sensitive to the need to enlist other mechanisms of social control. The contention is that the most appropriate vehicle to deliver these reflexive criteria into Canadian environmental law is a regime of enforced self-regulation with an emphasis on environmental self-auditing and reporting.

E. Conclusion

In his neo-evolutionary analysis of modern law Teubner identifies three ideal types of law and describes the transition from one type to the next. The development of Canadian environmental law parallels Teubner’s stages of transition in modern law. The earliest “environmental” law dealt with the protection of individuals qua individuals from nuisance and unreasonable interference with the enjoyment of their property. Environmental protection was really the protection of individual rights achieved through the vindication of a collection of primarily formal, common law rights inhering in individuals. With the advent of the welfare state the nature of the protected interest changed. Environmental protection became a public goal and environmental law

underwent a transformation in order to afford protection on a broader scale. Underwritten by a new substantive rationality, the Canadian environmental regulatory regime proliferated as control agencies were created and statutes and regulations were enacted to address emerging concerns and potential dangers.

The difficulty of providing efficacious environmental protection through substantive law is a concrete example of the general failings of the substantively-oriented, purposive law characteristic of the modern welfare state. Exclusive reliance on substantive legal solutions implies that cause and effect are directly, closely and linearly related and that cause and effect can be isolated from their context. Resort to substantive law also implies a belief that when a given action is taken the (desired) result is inevitable, and if a proposed action is not taken then the opposite (undesirable) result is similarly inevitable. The underlying message is that careful planning is a panacea for social ills and that there is a legal answer to every social problem. In contrast, Teubner's elaboration of reflexive law, informed by autopoietic theory, recognizes the reality of complex modern social subsystems and resists the impulse to attempt direct regulation. Teubner's work not only provides insight into the reasons for the regulatory failures of substantive law but also points to a theoretical solution. The contribution of Ayres and Braithwaite complements Teubner's theoretical framework by providing a model to test the implementation of reflexive legal solutions to regulatory problems. Together, Teubner and Ayres/Braithwaite point to a direction that is both theoretically illuminating and practically applicable.

There is evidence of a reflexive rationality emerging in contemporary approaches to environmental problems. Specifically, the European Eco-Management and Audit

Scheme and the International Organization for Standardization 14000 Series, considered in the next chapter, stand as examples of the conscious adoption of reflexive strategies.

Chapter 5 Reflexive Aspects in Contemporary Environmental Regulation

Elements of the reflexive rationality identified by Teubner are beginning to appear in current approaches to environmental protection although in an isolated and inchoate fashion. The following section presents and analyzes several discrete examples of the emergence of a reflexive rationality in contemporary environmental protection programs. The European EMAS and the ISO 14001 series in particular provide useful examples of a changing attitude towards environmental protection.

Highlighting some of these recent developments illustrates a gradual shift to less direct forms of regulatory intervention. The more compelling, reflexive features of this new regulatory style are indicative of a changing attitude towards regulation and also point to a new direction for the Canadian environmental regulatory regime. This new direction entails a move away from the direct regulation of command and control towards the creation of a process oriented approach.

A. Background

On a theoretical level reflexive law imports the biological concept of autopoiesis into the study of law's interaction with society. The closure of differentiated social subsystems contemplated by autopoietic theory provides an account for law's difficulty in exerting direct influence over other societal subsystems in order to produce predetermined, desired results. This explanation extends to the ineffectiveness of law in

regulating environmental protection within the economic sphere. To overcome this autopoietic closure the regulating systems of law and politics must achieve compatibility with the system targeted for regulation. Reflexive law attempts to achieve compatibility among systems through proceduralization. By appreciating law's limitations as well as the autonomy (or self-reference) of other social systems, reflexive law restricts itself to prescribing procedures for regulated entities to follow. In contrast to dictating legally acceptable behavior, the idea underlying reflexive law is the stimulation of the targeted system's self-referential mechanisms towards creative and continual self-reflection and self-criticism in order to take account of its external effects and thereby improve its performance in a designated area.

Tax law provides a practical illustration of the dynamics of a reflexive legal strategy. The Income Tax Act¹ is obviously substantive in design: it consists of highly detailed, technical rules and regulations which govern, inter alia, the reporting and classification of income, allowable deductions, and tax rates. Direct enforcement of the substantive tax law is problematic due to the complexities of dealing with millions of individual and corporate taxpayers. The problem of complexity is addressed by the procedural requirement of filing tax returns. This element of disclosure in the enforcement of the substantive tax law and regulations has a reflexive character in that it restricts legal performance to defining the procedure taxpayers must follow. The focus on procedure, rather than predetermined results, assists in transferring some of the burden of

¹ Revised Statutes of Canada, 1985, chapter 1 (5th Supplement).

tax collecting from the legal system to other social actors, namely the individual and corporate taxpayer.

The tax system also demonstrates how the various differentiated subsystems in society develop their own unique perceptions of the same action. The act of paying taxes is first and foremost a legal act required under the provisions of the Income Tax Act. Tax payments also have obvious implications for the economic sphere. The political realm is affected because tax payments support the political system with its various levels of government and their associated agencies, personnel and programs. Tax payments also affect the family through the provision of tax exempt savings programs for homes and retirement as well as exemptions for dependents. Thus the legal requirement to pay taxes has an indirect influence other social subsystems such as the family or the political sphere by promoting the self-reference and self-reflection of persons outside of the legal system.

B. Environmental Marketing

Initiatives like Canada's Environmental Choice Program introduce an element of reflexivity into environmental protection because they are process oriented and designed to affect the market in an indirect manner. Rather than engaging in the direct regulation typical of command and control, the Environmental Choice Program seeks to alter behavior within the economic system by creating a demand for green products which in turn creates an incentive for businesses to adopt environmentally friendly production methods and products. This type of program not only generates social communication

among consumers by challenging them to compare products in terms of their environmental impact but also serves to encourage self-reflection within firms about their environmental performance by making them take notice of this new demand force in the market.

C. Voluntary Programs

These initiatives provide an option to direct regulation. Rather than commanding changes to existing patterns of behavior, voluntary programs attempt to structure mechanisms for self-regulation so that change occurs from within. A defining characteristic of voluntary programs and one that speaks to their reflexive quality is that they aim at providing the means, opportunity and encouragement to engage in desired behavior rather than comprehensively regulating such behavior.²

(i) Ontario's Blue Box Recycling Program

Voluntary environmental efforts like Ontario's Blue Box Recycling Program encourage businesses and householders alike to reflect on the consequences of their production and purchasing decisions. At the level of the householder recycling forces the consumer to confront fundamental questions about his or her pattern of behavior in terms of its affect on the environment. These questions may include "How much do I consume?" "How much waste do I generate?" "Can I reduce these amounts?" Similarly,

² See Gunther Teubner, "Substantive and Reflexive Elements in Modern Law" (1983) 17 *Law and Society Review* 239 at 251 where he contrasts "enablement and facilitation" with "comprehensive regulation."

recycling encourages businesses to appraise the environmental impact of their activities by demonstrating the amount of waste generated in production and packaging processes and the benefits available in reducing these amounts.

The concrete benefits of recycling are measurable. In 1987 less than 0.5 million households in Ontario had access to multi-material recycling. Today, almost 3.1 million Ontario households enjoy access to the recycling of basic materials (glass, newspaper, aluminum, plastic and steel) in more than 520 municipalities.³ Hundreds of thousands of tonnes of resources annually are diverted from landfill.

Aside from their quantifiable benefits voluntary programs also engender a more proactive, positive attitude towards environmental protection. This occurs because they have the potential to change the values of both producers and consumers by encouraging environmentally beneficial behavior. This stands in contrast to the punitive overtones of conventional regulation.

(ii) Accelerated Reduction/Elimination of Toxics

Launched in 1991, the ARET (Accelerated Reduction/Elimination of Toxics) initiative is a multi-stakeholder effort to achieve consensus on criteria for defining toxicity, to categorize target substances into priority lists, and to devise a means for industry to address its toxic emissions. ARET began as a consultation process among government, business, labor, environmental non-governmental organizations and health and professional groups. Its successes include obtaining consensus on the definition for

³ Waste Reduction Information Services, Recycling Trends in Ontario (Toronto: Recycling Council of Ontario, 1995) 1.

toxicity and developing five priority substance lists. It also has commitments from 270 member organizations to collectively eliminate 20,731 tonnes of toxics (a 51% reduction) between 1993 and 2000.⁴

The reflexive aspect in this type of program is in its genesis. Instead of being the subject of externally imposed regulation, ARET is the voluntary creation of its participants. It provides a structured process for stakeholders to reach consensus on important questions relating to toxic chemicals and its entire focus is on encouraging industry to assess the environmental impact of its operations. Additionally, ARET opens new channels of communication between business and stakeholders and stands as another example of a proactive, as opposed to a punitive and reactive approach to environmental protection.⁵

(iii) Voluntary Environmental Measures

These agreements represent a new tool employed by control agencies to achieve environmental improvements in concert with a particular firm. A Voluntary Environmental Measure consists of a written agreement between a control agency and a firm aimed at improving the firm's environmental performance in one or more specified areas. These agreements have the advantage of setting targets that are more ambitious than required by current regulations and certificates of approval. They also can be

⁴ Environmental Policy Unit, School of Policy Studies, Queen's University, Lessons Learned From ARET: A Qualitative Survey of Perceptions of Stakeholders (Kingston: Queen's University, 1996) 3.

⁵ For further information on ARET see Environment Canada, Environmental Leaders 2. Voluntary Action on Toxic Substances (Ottawa: Minister of Public Works and Government Services Canada, 1997).

structured to allow the firm to make required changes as and when it replaces aging equipment so that its capital investment patterns are not disrupted.

A recent example is the November, 1997 Environmental Management Agreement among Canadian steel producer Dofasco Inc., Environment Canada and the Ontario Ministry of the Environment. The agreement is designed to assist Dofasco to voluntarily meet the requirements of both federal and provincial laws governing all aspects of the environment including air, water and soil pollution, while simultaneously giving the company flexibility with respect to time, management systems and financing.

The shortcoming of Voluntary Environmental Measures, including the Dofasco agreement is the use of vague language such as “using all reasonable efforts” to meet agreed upon standards or emission levels. Frequently there are no specific commitments to targets and timetables and there is a lack of defined rewards for attainment or consequences for non-attainment. The Dofasco agreement in particular highlights other important issues. At Kyoto, one month after the Dofasco agreement was signed, Canada committed to more stringent reductions in greenhouse gas emissions than contemplated by the Dofasco voluntary environmental measure. This raises the question of whether the voluntary agreement signed by Dofasco protects it from new national policies, programs and regulations that may require more significant decreases in emission levels than those it had agreed to. The essential point is that although this type of voluntary effort promotes self-regulation it lacks an element of enforcement to guarantee performance.

(iv) Conservation Easements and Covenants

The principle of “enabling” as opposed to “commanding” is also finding its way into statutes that have significance for environmental protection. During the last decade there has been an increased awareness that certain areas of land, because of unique natural attributes or value as wildlife habitat, should be protected from economic exploitation and preserved in their natural state in perpetuity. Some large tracts of public land in the less populated areas of Canada have been safe guarded from development by being designated as parks or ecological reserves. Protection of smaller parcels of privately-owned ecologically sensitive land has been more difficult to achieve. Traditionally only two methods have been available to the private sector to protect natural areas on private lands: outright purchase and short term lease. Unfortunately, the disadvantages of these habitat protection mechanisms can outweigh their advantages. Purchasing land can be prohibitively expensive, while leases are generally of short duration and total lease payments may approach the amount which would have been required to purchase the subject property.⁶

Common law provides for easements and covenants which can be used to preserve the natural environment. A conservation easement provides a legally binding method of giving effect to an agreement between a landowner and a conservation-minded organization on how to manage the features on the land. This is a departure from a typical common law easement which gives the owner of one parcel of land (the dominant

⁶ Thea M. Silver, Ian C. Attridge, Maria McRae and Kenneth W. Cox, Canadian Legislation for Conservation Covenants, Easements and Servitudes (Ottawa: North American Wetlands Conservation Council, 1995) 3.

tenement) the right to use the land of another (the servient tenement) for a specific purpose. Conservation through easements is desirable because it allows for the protection of valuable habitat on private land without the full expense of land acquisition. Associated benefits include the provision for permanent protection of habitat on lands that are not for sale, and the flexibility of negotiating covenants to meet the particular needs of the conservation agency, the landowner and the features on the land. At common law however, there are a number of prerequisites for the creation of an easement: there must be a dominant and a servient tenement; the easement must benefit the dominant tenement in the sense of making it a more convenient property; the two tenements must be separately owned parcels of land; and lastly, the right given in the easement must be specific enough to be capable of forming the subject matter of a grant.

Similarly, a restrictive covenant is an agreement between two landowners, one of whom promises not to use his/her land for certain purposes in order to benefit the land of the other. As with easements, there is a legal requirement for separately owned dominant and servient tenements.

Although common law easements and restrictive covenants provide a legally binding way of protecting privately-owned ecologically sensitive land from development, their use and effectiveness is limited by several factors. First, the requirements of the dominant and servient tenement are difficult to meet because conservation agencies rarely own adjacent land that could be said to benefit from habitat retention. Also, only the owner of the dominant tenement has the legal right to enforce the provisions of the easement or covenant. Lastly, the benefits of the easement or covenant are not assignable

to another party. These difficulties were recently addressed by an amendment to the Conservation Land Act.⁷ Pursuant to the Statute Law Amendment Act⁸ since January 31, 1995, the owner of land may grant an easement to, or enter into a covenant with, a conservation body, “for the conservation, maintenance, restoration or enhancement of all or a portion of the land or wildlife on the land or for access to the land for these purposes.”⁹ “Conservation body” is broadly defined to include both the Federal and Provincial government and associated agencies as well as conservation authorities and the council of a municipality.

While alteration of the traditional legal rules governing easements and covenants is not reflexive in the sense of stimulating self-referential mechanisms it is an example of using law to “enable” rather than to “command.” It not directly compel landowners to cede conservation easements nor does it automatically increase the acreage subject to such easements and covenants. Instead, it focuses on using law to create a process to make desired behavior easier to accomplish. As a result of this amendment conservation authorities are able to expand the geographic scope of their environmental protection efforts without the expense associated with purchase, lease or expropriation.

⁷ Revised Statutes of Ontario, 1990, chapter C.28.

⁸ Statutes of Ontario, 1994, chapter 27.

⁹ Supra footnote 4, chapter C28, section 3.

(v) Ecological Gifts

Donation of ecologically sensitive land is emerging as an important new tool in conserving sensitive ecosystems and biodiversity across Canada.¹⁰ Until recently though, the Income Tax Act served as a barrier to the donation of land for environmental conservation purposes. Federal legislation permitted donations of land to non-government registered charities and to municipalities, but donors were limited in their use of tax receipts for such gifts to a maximum of 20% of their income each year. In practice this meant the full benefit of a donation might not be fully used by a donor even if spread over several tax periods. This situation stood in contrast to gifts given to Crown agencies where tax receipts for such gifts could be used to offset 100% of income.

This discrepancy was addressed through amendment of the Income Tax Act in 1996. At that time the 20% annual limit for use of a tax receipt for ecological gifts to municipalities and charities was increased to 100%. The reflexive aspect of this amendment again lies in the use of law to indirectly influence decisions in another societal system. Land is not being expropriated, nor are individuals or corporations being coerced to make ecological gifts; the law has simply provided a benefit to encourage sought after behavior. Since the amendment to the Income Tax Act, over 30 ecological gifts in seven provinces, totalling over \$11 million in value have been made.¹¹

As in the case of conservation easements and covenants, changes to the legal rules

¹⁰ Clayton Rubec, Ecological Gifts, Implementing Provisions of the Income Tax Act of Canada (Ottawa: Environment Canada, 1997) 1.

¹¹ *Ibid.* at iv.

surrounding income tax deductions for ecological gifts do not directly compel such donations. Instead, they operate indirectly by removing barriers and furnishing incentives for the granting of ecological gifts.

D. The European Eco-Management and Audit Scheme as Reflexive Law

The European Eco-Management and Audit Scheme (EMAS) is a 1993 regulation of the European Economic Community designed to encourage voluntary participation by industrial sector businesses in an eco-management and audit program. Its stated objective is “to promote continuous improvements in the environmental performance of industrial activities.”¹² It provides for the voluntary participation of industrial enterprises in a site-based process of environmental management. Participants are required to conduct an initial environmental review to develop environmental management systems for registered sites and to establish a company environmental policy.¹³ Periodic environmental audits of the management systems and environmental performance must be undertaken and the results reported by each participant through disclosure in public statements verified by accredited environmental auditors.¹⁴ Participants are rewarded with official recognition which includes the right to display the EMAS emblem indicative of membership in the program.¹⁵

¹² Council Regulation (EEC) No. 1836/93 of June 1993 allowing voluntary participation by companies in the industrial sector in a Community eco-management and audit scheme, Chapter 1, Article 1(2).

¹³ Ibid. Article 3 (b) and (c).

¹⁴ Ibid. Article 3 (d) (g) (h) and Article 4.

¹⁵ Ibid. Article 10.

In many respects the EMAS is an example of a reflexive environmental law. It is indirect because of its voluntary nature, and unlike the standard setting style of command and control regulation, it influences behavior indirectly by offering participants the competitive benefits associated with official acknowledgment of their commitment to enhanced environmental performance. Also, in contrast to the purposive nature of traditional environmental regulation, the EMAS emphasizes the procedures that businesses use in making environmentally responsible decisions. Focusing on procedure rather than substantive detail is a principal characteristic of reflexive law.

The essence of the EMAS is to provide a framework for businesses to systematically include environmental considerations in their internal, self-referential patterns of decision making. The strategy of public disclosure of objectively audited information ensures the inclusion and priority of environmental issues. As is the case with the system of self-reporting of income required by tax law, the disclosure of environmental audits relieves the legal system of some of the burden of enforcing the substantive law.

F. Reflexive Elements of the ISO 14000 Series

The International Organization for Standardization (ISO) 14000 series is a set of generic standards covering environmental management systems, auditing, performance evaluation, labeling and life-cycle assessment. Its purpose is to provide any business, regardless of size or type, with a structure for managing environmental impacts. It is not a

law or a regulation but a guideline endorsed by the Standards Council of Canada.¹⁶ The ISO 14001 standard, which deals with management systems, is the only one intended for registration purposes. All other standards are for guidance only.

ISO 14001 consists of a comprehensive, proactive systems approach designed to improve environmental protection by using a single environmental management system across all functions of a business organization. It is crafted to allow a business organization to establish an environmental policy appropriate to itself, to identify the environmental aspects of its activities, products or services to determine environmental impacts, to identify the relevant legislative and regulatory requirements, to set appropriate environmental objectives and targets, to establish a structure and a program to implement its policy and to achieve objectives and targets, to facilitate planning, control, monitoring, corrective action, auditing and review to ensure policy compliance, and to be capable of adapting to changing circumstances.¹⁷

As in the case of the EMAS, the ISO 14001 appears to be a mixture of substantive and market oriented approaches to environmental regulation. The wealth of detail in the scheme is substantive in nature while the benefits of ISO certification appeal to the economic logic of participants by promising a reduction in liability and risk, a decrease in operational costs as greater energy and resource savings are realized and favorable insurance rates from having a proven environmental management system in place.

¹⁶ The Standards Council of Canada is a federal Crown corporation with the mandate to promote efficient and effective voluntary standardization in Canada.

¹⁷ International Organization for Standardization, ISO 14000 Series, "Environmental Management Series-Specifications," Chapter 1, Clause 4.

The reflexive rationale of the ISO 14001 standard, similar to the EMAS, lies in its procedural orientation and indirect approach. It is not a mandatory standard. It presents businesses with the opportunity to obtain the benefits of certification by the ISO. Certification signifies the firm's implementation of a structured process for the achievement of continual improvement in its environmental performance. Rather than attempting to dictate a firm's environmental performance, the standard's objective is to provide a means of integrating environmental issues into the overall management system of a business. The development and implementation of an effective environmental management system necessarily entails a degree of self-reflection and self-criticism within the firm.

F. Conclusion

A brief survey of current trends in environmental protection reveals some preliminary signs of the transition to a reflexive rationality. The European EMAS and the ISO 14001 standard are comprehensive examples of the more subtle attempt to influence decision making in the economic sphere. They both avoid direct regulation in favor of a process oriented approach that provides for voluntary participation with incentives to induce desired behavior. By establishing formats for the incorporation of environmental issues into business decisions and by providing for environmental self-auditing, they seek to influence the mechanisms of self-reflection within business organizations towards incorporating environmental protection as a goal.

Despite their reflexive grounding both the EMAS and the ISO 14001 can be improved. The scope of the EMAS is limited to industrial businesses. Its site-based orientation means that the EMAS does not necessarily apply to a registered business as a whole. Instead, a business can opt to register only one or several of its sites, with a site being defined as, “all land on which the industrial activities under the control of a company at a given location are carried out.”¹⁸ Some of the language used in the EMAS is problematical in terms of definition. For example, environmental programs established under the regulation must achieve, “continuous improvement of environmental performance,”¹⁹ but there is no metric provided for measuring environmental performance over time. Registered businesses must also report “significant”²⁰ environmental effects at registered sites, but the regulation is silent as to the meaning of “significant.” The regulation also provides for a reduction of environmental impacts to levels, “not exceeding those corresponding to economically viable application of best available technology.”²¹ Qualifying “best available technology” in terms of economic viability leaves open the question of who is to make such a determination and what criteria are intended to be used.

The ISO 14001 standard similarly suffers from a limited scope of operation. A business may choose to implement the standard with respect to its entire organization or restrict it to specific operating units or activities of the organization. Additionally, there is no clear linkage between ISO certification and immediate environmental improvement

¹⁸ Supra footnote 24, Chapter 1, Article 2 (k).

¹⁹ Ibid. Article 1 (2).

²⁰ Ibid. Annex 1 (3).

²¹ Ibid. Article 3(a).

since it is the business that controls the level of environmental performance that it sets itself.

The key reflexive component in each of these schemes is the mandatory requirement for environmental self-auditing and reporting. Both approaches could be strengthened by the enhanced communication and legitimacy conferred by outside approval of the required environmental management system and by the incorporation of a regulatory enforcement pyramid as endorsed by Ayres and Braithwaite in their model of enforced self-regulation.

The next section presents the outline of a reflexive model of environmental protection for use in the Canadian context.

Chapter 6 From Theory to Practice: Towards a Canadian Model of Reflexive Environmental Law

The European EMAS and the ISO 14001 standard are significant steps in the development of a new regulatory attitude with respect to environmental protection. They both favor the creation of self regulatory structures to improve the environmental performance of industrial corporations as opposed to the more direct intervention characteristic of command and control regulation. Their limitations however, emphasize that they are prototypes and that there is room for improvement in the scope and implementation of a self regulatory program.

The next section summarizes two important dimensions of the problem of environmental regulation in Canada: the ubiquity of the corporate form of business and the lack of an organized approach to manage the external (environmental) effects of corporate economic activity. This is followed by a proposal that sketches the outline of a Canadian environmental management and audit scheme.

A. Canadian Background

The greatest source of environmental degradation occurs within the realm of business and industry.¹ Recognition of this fact inspired initiatives like the European EMAS and the ISO 14001 standard, both of which specifically target the corporate

¹ Dianne Saxe, Environmental Offences, Corporate Responsibility and Executive Liability (Aurora: Canada Law Book, 1990) 21.

industrial sector. In Canada the corporate world is composed of over a million parts: approximately 900,000 for-profit businesses, including crown corporations; about 140,000 not-for-profit voluntary organizations such as churches and trusts; 18,000 professional associations; 7,000 co-operatives including credit unions, caisse populaires and insurance co-operatives; 1,227 hospitals; 945 unions; and 249 universities, colleges and community colleges.² Additionally, there are 97 federal government departments, provincial and territorial departments and agencies and 7,524 local governments within Canada. The federal government is the largest commercial property holder in the country, owning or leasing 25 million square meters of office space. The federal inventory of buildings and facilities lists more than 50,000 items including office buildings, laboratories, parks and military bases.³ Currently, very few Canadian corporations have reporting procedures that go beyond the traditional prototype. Only about 7 per cent of large corporations (defined as having more than 200 employees) report environmental issues to their boards of directors on regular basis. Fewer than 1 per cent are committed to releasing an annual environmental report for external consumption. Only 1 per cent routinely monitor and assess some aspect of progress on sustainable development practices. In medium sized corporations (100-200 employees in the manufacturing sector, 50-200 employees otherwise) less than 0.1 per cent routinely

² Tony Hodge, Susan Holtz, Cameron Smith and Kelly Hawke Baxter (eds.) Pathways to Sustainability: Assessing Our Progress (Ottawa: National Round Table on the Environment and the Economy, 1995) 44.

³ Ibid. 48.

report progress on sustainable practices and among small businesses and self-employed individuals any such monitoring and assessment is a “rare exception.”⁴

Annual surveys conducted by the national accounting firm KMPG indicate a lack of environmental management systems within the Canadian corporate community. For example, in the manufacturing sector only 22 per cent of respondents report having an environmental management system with all vital components.⁵ The survey results also indicate that the most compelling factors leading up to the corporate decision to take action on environmental issues are “compliance with regulations” and “board of director liability.”⁶ These data suggest a defensive posture (fear of prosecution and affording protection for directors) with respect to corporate compliance, rather than a proactive attitude concerning the environmental impact of their operations. Defensive compliance is also evidence of the incompatibility between the internal logics of law as expressed through direct regulation and the target of such regulation because it connotes both a grudging and minimal compliance effort and that policy goals are not being fully accepted and internalized.

The contrast between the magnitude of the Canadian corporate world with the relatively small number of effective environmental management systems in place and the paucity of environmental reporting underscores the importance of cultivating a new legal attitude towards environmental regulation.

⁴ Ibid. 45.

⁵ KMPG, *Canadian Environmental Management Survey* (Ottawa: KMPG, 1997) 9; other sectors of the economy report as follows: Natural Resources and Energy (10%), Financial Institutions (13%), Goods (13%), Municipalities (18%), Education (5%), Health (19%) and Service (23%).

⁶ Ibid.

A problem with the current debates surrounding legal regulation of the environment is that they are grounded in traditional forms of policy analysis. Some analysts focus on the connection between policy determinants and policy content while others stress the relationship between policy content and its impact.⁷ The constraints implicit in this style of analysis limit suggestions with respect to the use of law as a means of social control. The search for solutions becomes confined to the traditional range of policy instruments designed to achieve direct external control of behavioral patterns. Only two alternatives to the traditional approach are proposed, the abandonment by law of its regulatory functions (deregulation, labeled re-formalization by Teubner) or the importation of economic analysis as a rationale for regulation (which Teubner refers to as the implementation approach.)

Creative options are needed in order to transcend the dichotomy of deregulation versus intensified state control. This entails an abandonment of the purely technicist or instrumental conception of regulation in favor of enlisting other, less direct control mechanisms that already exist within other social subsystems and that can be encouraged to adopt a voluntary and proactive approach towards environmental protection. This represents a completely different direction from current government policy. Recently for example, the Honorable Norman Sterling, Ontario Minister of the Environment stated, "[O]ur goal is to set and enforce strong and clear environmental standards focused on result - - not process."⁸ Reflexive strategies, conversely, focus on process, that is the

⁷ See for example, Donna Tingley (ed.) Into The Future: Environmental Law and Policy for the 1990s (Edmonton: Environmental Law Center, 1990).

⁸ Ontario Ministry of the Environment, Ontario Ministry of the Environment, Business Plan 1998-1999 (Toronto: Ontario Ministry of the Environment, 1998) 1.

creation of procedures for self-regulation, rather than the purposive implementation of additional substantive rules.

At the outset it was noted that the purpose of this paper is to make a creative contribution to the debate surrounding legal regulation of the environment in Canada. Within that context it is recommended that the most appropriate vehicle to make the transition from direct regulation to less intrusive forms of control is a regime of enforced self-regulation with an emphasis on self-auditing and reporting.

B. A Proposal For a Canadian Environmental Management and Audit Scheme

A reflexive legal strategy does not entail a withdrawal by the state from regulation. Instead, it seeks new regulatory arrangements that take greater account of the personal interests, that is the self-reference, of those affected. In recognizing that control of social behavior is not a monopoly of law this strategy aims at enlisting other social institutions in the fight against environmental degradation. A Canadian Environmental Management and Audit Scheme (CEMAS) should therefore focus on industrial business corporations since they are the greatest source of environmental degradation and it is control of their behavior that is sought.

The following proposal highlights four fundamental requirements for a Canadian Environmental Management and Audit Scheme: it should be a voluntary, company based process of adopting government approved environmental management systems that include self-auditing and self-reporting. The emphasis on self-regulation is an important

feature because it is the least coercive instrument of government intervention.⁹ It has the advantage of encouraging the requisite voluntary acceptance by business of government defined parameters for environmental management systems. Self-regulation also provides both detector and effector capabilities. These terms, borrowed from cybernetics refer to a government's or a control agency's ability to tell what is occurring in a given sphere of activity (the detector capability) and the further ability to act on that sphere (the effector capability.)¹⁰

A management scheme that includes an assessment of the environmental impact of all business decisions is a prerequisite to stimulating reflection structures within a corporate enterprise so that environmental concerns are considered along with balance sheets, income statements and stockholders' reports. Self-auditing and reporting allow both the individual business and the control agency to assess environmental performance and also serve as the control agency's detector capability. Control agency audits of the self generated reports provide the basis for its communication with participants and lay the groundwork for its effector capability. Unsatisfactory reports should be the trigger for regulatory enforcement action calibrated to match the seriousness of the offense.

(i) Voluntary Participation

An essential feature of a CEMAS is voluntary participation. At bottom, reflexive law is really an effort to (re)structure the "rules of the regulatory game." Since its

⁹ Leslie A. Pal, Public Policy Analysis (Toronto: Methuen, 1987) 142-150; Pal sets out the complement of instruments of governing which range from self-regulation (minimum) to public ownership (maximum).

¹⁰ Christopher C. Hood, The Tools of Government (London: Macmillan, 1983) 4.

theoretical starting point is the increasing futility of employing direct (external) legal commands as a means of altering behavior within other social subsystems it must seek an alternative way of injecting desired environmental values into the (internal) structures of corporate decision-making. Defining the parameters within which businesses make decisions is only the first step. The parameters must be accepted. To encourage acceptance and thereby promote voluntary participation in the program it must be made attractive to all potential participants. The issue of voluntarism is important because it means the desired change in attitude towards environmental impacts of business activities comes from within rather than being forced from the outside as in the command and control regulatory style. This means appealing to the self-referential dimensions of businesses and their decision-makers. The advantages of membership must be well-conceived, well-publicized and well-administered. There are many advantages of adopting an environmental management system (EMS) aside from helping an organization to meet its legal obligations in a timely fashion: some companies that already have an EMS in place have found it less expensive to operate an EMS than a compliance driven system; community support for a business can be increased by demonstrating concern for the local environment through implementing an EMS; workers may be attracted to a business with a plan to protect the immediate work environment and the surrounding community; and a company's products will have a greater appeal to consumers seeking green products.

In connection with appealing to the "green market" there should be an explicit recognition of an organization's participation in a CEMAS. Participants should have a

logo or symbol to display, similar to the Ecologo of registrants in the Environmental Choice Program, that would signal their commitment to continuous environmental improvement. Conversely, businesses without the CEMAS logo would signal their unwillingness to make such a commitment.¹¹

(ii) Company Based

The CEMAS process should be company based rather than the site based approach of the European EMAS or the potentially fragmented approach of the ISO 14001 standard. The idea is to simplify the administration of environmental law, so there should be no more than one EMS per company. A different EMS for each industrial site as in the European version or a different EMS for different divisions of the same company would be too complex for efficient administration.

Consideration should also be given to extending a CEMAS to all levels of government and Crown Corporations. Government in Canada is big business and as such affects environmental quality. The activities of other organizations, such as Ontario Hydro, have tremendous potential environmental consequences and should also be subject to the proposed CEMAS.

(iii) Environmental Management System

A Canadian version of an EMAS should begin with requiring the top

¹¹ Eric W. Orts, "Reflexive Environmental Law" 89 Northwestern University Law Review (1995) 1227 at 1326-1327.

management of each participating business, regardless of size, to define an environmental policy for the organization. The policy should be in the form of a statement of corporate intentions with respect to its environmental impact. It should take into account legislative and regulatory requirements and serve as an internal reference framework for achieving continuous environmental improvement. A corporation's environmental policy should be unique to that organization, be communicated to all employees and be made publicly available. The policy is the starting point for setting the corporation's environmental management system objectives and targets.

Participants should then be required to devise an EMS to ensure that the environmental policy is actively carried out by the organization. This entails planning, implementation and operations, checking and corrective action, and management review.¹² It is important to note that a corporation's EMS should not be not intended to replace the requirements of existing legislation, regulations or codes of practice. Instead, its purpose should be to provide a system for monitoring, controlling and improving performance with respect to those requirements. The process of crafting both an environmental policy and a means of implementing and monitoring the policy is intended to encourage self-reflection and self-criticism within business organizations and to promote the internalization of the policy goal, namely, environmental protection. The fact that the policy and the EMS are both self-generated rather than imposed is meant to ensure its acceptability to the participant.

¹²Isis Fredericks and David McCallum, International Standards for Environmental Management Systems: ISO 14000 (Toronto: MGMT Alliances Inc. 1995) 1-3.

An EMS drafted by an individual participant should then be subject to control agency review to ensure feasibility. This is part of the enforcement process. Key tests for a self-produced EMS are that it is comprehensive, proactive and based on a systems approach. Comprehensive means that all members of the business organization participate in its environmental policy, that the EMS considers all stakeholders, and that there are processes in place to identify all potential environmental impacts of the organization's operations. Proactive means that the organization's EMS focuses on forward thinking and action instead of merely reacting to past command and control policies. A systems approach means that the organization aims at improving its environmental performance by using a single EMS across all of its functions. Independent, authoritative scrutiny by a control agency of a proposed EMS should ensure its conformity to existing legal requirements and also assist in the development of industry specific systems since different formats would be required by different types of business organizations.

(iv) Self-Auditing and Reporting

A critical element of a self-generated EMS is the requirement for self-auditing and self-reporting. It is important to audit an EMS on a periodic basis to ensure that it is operating as planned, to provide information for management review and to assess its capability in meeting the defined environmental objectives. The element of disclosure of information to control agencies through self-reporting is important because it ensures that participants have an EMS which is capable of producing the information that must be

disclosed and it also defines the basis for communication between the participant and the regulatory agency.

All reporting done within the context of a Canadian Environmental Management and Audit Scheme should be comprehensive, be done on a regular basis (perhaps annually), be made public and be subject to control agency verification. Environmental management and auditing would lack credibility if the results were not publicly released and subject to independent, official (government) verification. Aside from imparting credibility to the process, the public release of verified (or verifiable) information would help address the lack of access to important environmental information which prevails under the current regulatory regime.¹³ Corporate environmental reporting under a CEMAS, similar to the reporting of income under the Income Tax Act, should be subject to government scrutiny as part of the enforcement process. A regulatory enforcement pyramid containing penalties commensurate with the severity of transgressions should be available for use by the control agency to deal with instances of false reporting. It is this element of enforcement that is missing from voluntary environmental measures such as the recent agreement among Dofasco, the Ontario Ministry of the Environment and Environment Canada.

(v) Role of the Control Agency

The proposed CEMAS alters the traditional role of environmental control agencies in several significant ways. First it creates the duty of setting the parameters for the

¹³ Supra footnote 11 at 1123.

environmental management systems required of participating business corporations. Second, it entails review of proposed environmental management systems to ensure both their conformity with all existing legislative and regulatory requirements and their focus on improvement of environmental performance. Third, it requires the control agency to (selectively) audit the self generated reports of CEMAS participants. Cumulatively, the first three changes to the control agency role produce the last change, which is relief from some of the onus associated with the monitoring, inspection and investigation duties required under a command and control regulatory system. This last change stems from the emphasis placed on self-regulation, auditing and reporting within the economic sphere.

The structure of Environment Canada includes at least three divisions which could take on CEMAS responsibilities. Currently there are Director General's offices with individual responsibility for National Programs, Pollution Prevention and Corporate Affairs.

(vi) The Role of the Public

A proposed CEMAS should also include a role for the public since it is the final arbiter as to whether the regulatory system is affording sufficient environmental protection. A recommended method of involving the public is through tripartism, defined as a policy to foster the participation of public interest groups in the regulatory process by granting them access to all the information that is available to the regulator and by giving them a seat at the negotiating table with business organizations and the control agency

“when deals are done.”¹⁴ In terms of a proposed CEMAS this means giving public interest groups input and even approval for any proposed EMS. An important advantage of including public representation, aside from broadening the value base that drives the regulatory process, is that it mitigates against the possibilities of capture or corruption which could occur in a two party regulatory system.¹⁵

C. Conclusion

The proposed CEMAS is an attempt to implement the reflexive legal strategy identified by Gunther Teubner within a model suggested by the Ayres/Braithwaite conception of regulation. Teubner and Ayres/Braithwaite share a vision of self regulation as a potential solution to the current dilemma of law. Teubner’s concern is to establish organizational structures designed to achieve an optimal balancing of performance and function within subsystems by having them take account of the requirements of their external environment.¹⁶ Enactment of the proposed CEMAS, by setting out the procedural requirements to be followed in drafting an environmental policy intended for implementation through an environmental management system, is meant to give statutory expression to this approach. The proposal provides for the adoption of state approved environmental management systems as a means of encouraging reflection structures

¹⁴ Ian Ayres and John Braithwaite, Responsive Regulation: Transcending the Deregulation Debate (New York: Oxford University Press, 1992) 57- 58.

¹⁵ Ibid. 54.

¹⁶ Gunther Teubner, “Corporate Fiduciary Duties and Their Beneficiaries” in K.J. Hopt and Gunther Teubner (eds.) Corporate Governance and Directors Liability (Berlin: de Gruyter, 1985) 165.

within the economic subsystem. Business corporations need to compare their actions and performance with those of their competitors. There are many available sources of information with respect to financial performance but very little concerning environmental performance. Encouraging the establishment of environmental management systems presents an opportunity to develop a source of comparative and cumulative information on environmental matters for businesses and control agencies alike.

Ayres and Braithwaite, while not working within the same reflexive law paradigm, reinforce Teubner's emphasis on establishing structures for (self) reflection within the economic sphere by recommending self generated (although subject to state approval) rules of conduct, that is, environmental policy statements and management systems. Their inclusion of an enforcement pyramid provides a mechanism (apparently unconsidered by Teubner) to ensure compliance. In some respects the inclusion of such a mechanism appears to be in conflict with Teubner's vision of "self-regulation taking the form of decentralized moral self-control"¹⁷ and equally it seems at odds with the required spirit of voluntarism. On the other hand, there must be some method of ensuring compliance and some punishment, no matter how minimal, to deal with transgressors, for example, corporations that file falsified reports concerning their environmental performance. The strength of the Ayres/Braithwaite enforcement pyramid is that it is geared to respond to such transgressions in proportion to the seriousness of the breach. A minor offense might

¹⁷ Jean L. Cohen and Andrew Arato, Civil Society and Political Theory (Cambridge: The M.I.T. Press, 1992) 482.

bring revocation of a company's right to display the approved ecologo for a specified period of time.

The chief criticism of the proposal for a CEMAS is that there is no guarantee of its success. Its principal virtue however, is that it attempts to make use of more creative and innovative approaches to the legal regulation of the environment. It also shifts attention from the traditional prescriptive regulatory style to an approach that has more potential for integrating environmental concerns with economic decision making.

Chapter 7 Conclusion

In Canadian society an important, traditional role of law is to provide a means by which human conduct is required, encouraged or forbidden. In political terms this translates into government's use of law to prescribe human conduct in accordance with policy objectives. Our current environmental regulatory regime demonstrates this usage of law to control human behavior. The "dilemma of law in the welfare state" is that law, or more precisely the traditional version of regulation, is losing its effectiveness as an instrument of social control. The difficulty of achieving effective environmental protection through legal regulation is simply one manifestation of this dilemma.

The shift of environmentalism from a marginal concern of governments to a more centralized position on the agenda has occurred within a well established setting of regulatory intervention. Within Canada, as in other industrialized countries, the traditional legal response has produced a proliferation of environmental legislation and regulation that in turn has given rise to new control agencies and legal enforcement with all that entails for costs and delays.

The central problem of environmental regulation is subjectively perceived by different constituencies. The general public conceptualizes the problem in terms of the increasing risk to human health posed by the ubiquity of toxic chemicals, as well as the inherent dangers of hazardous waste, unsafe drinking water and polluted air. Spearheaded by pro-environmental interests, the public wants more environmental regulation, stricter enforcement of existing regulation or some combination of the two. At the other extreme, the common complaint from regulated entities characterizes the problem as "too much

law.” The targets of regulation frequently feel overwhelmed by the mass of rules, regulations, policies and guidelines directed at them. In their view regulatory compliance entails stringent constraints and increasingly high costs. Somewhere in between these polar positions, loosely described as environment versus economy, government attempts to cope with the volume of environmental law it has created. The incremental expansion of the environmental regulatory regime produces a need for larger bureaucracies with increasing numbers of personnel to administer the law by inspecting, investigating, issuing warnings and pursuing legal remedies. Government appears to be caught in the conflicting roles of trying to promote strong economic growth while simultaneously imposing constraints on economic activity to protect the environment. It is as vulnerable to criticism from environmentalists and the general public for inaction as it is to criticism from business, trade associations and investors for taking action.

Other critiques of the traditional command and control regulatory approach call attention to its unsuitability to address problems rooted in science, especially the fast paced “moving targets” associated with environmental degradation. There is also the problem of the “gap” between environmental law as written and as practiced which is a result of government attempts to reconcile the two competing interests. Finally, the existing system discourages the free flow of crucial information.

Using the market itself to address perceived market inadequacies focuses on concepts of efficiency and raises a multitude of serious questions. What is being sought, economic efficiency or ecological efficiency? Is efficiency the most important criterion? Is it even attainable? In Canada data on monitoring, testing, and cost and benefits of

environmental regulation is extremely unreliable and user unfriendly.¹ Even in a country like Germany, which enjoys an excellent reputation for its high environmental standards, efficiency is problematic. Wolfgang Pfaffenberger notes that although some of the German results are impressive, the “efficiency record, however, is not. Regulation has become more and more complex, and we do not know what the cost of this regulation is in relation to its benefits.”² Pfaffenberger speculates that “policies seem to have been influenced much more by political efficiency in the sense of impressing the voter.”³ Alternatives to traditional regulation which center on retreat (deregulation) or resort to different regulatory models (incentive versus directive, negative versus positive incentives) within the substantively oriented framework characteristic of the welfare-regulatory state fail to acknowledge the need to develop new ways of responding to the increasing complexity of contemporary society. In short, they preclude casting a wider net in search of solutions.

The value of Gunther Teubner’s contribution to the debate is that his work provides a theoretical framework to assist in understanding the evolution of law including the manner in which it responds to change. His importation of autopoietic theory from the realm of the physical sciences is seen by some as “permanently pessimistic”⁴ because it describes why “materialized” law (informed by political and social imperatives) fails when it confronts the unwieldy structures of other systems that have their own (self-

¹ Tom Conway, “Taking Stock of the Traditional Regulatory Approach” in G. Bruce Doern (ed.) Getting it Green (Scarborough: McGraw-Hill Ryerson Limited, 1990) 25 at 26.

² Wolfgang Pfaffenberger, “Multiregulation of Energy and the Environment: The Case of Germany” in Helen Lawton Smith and Nick Woodward (eds.) Energy and Environment Regulation (London: Macmillan Press Ltd., 1996) 221 at 221-222.

³ *Ibid.* at 221.

⁴ Roger Cotterrell, The Sociology of Law (London: Butterworths, 1992) 69.

referential) imperatives. This suggests that Teubner sees the failure of law as theoretically unavoidable. An alternative, preferable view is that Teubner is not describing the failure of law per se, but only its increasing difficulty in shaping society through the regulation of human conduct. Therefore he is not calling our attention to a new role for law, but only to a new method of using law to perform one of its traditional functions. He recognizes the futility of relying on law alone to motivate behavior which is also dependent on personal initiative, innovation and positive commitment. His strategy is based on the opposition of legal conceit versus legal reticence. The implicit assumption of purposive, goal oriented regulation is that there is a legal answer to every social problem and therefore careful planning becomes a universal remedy for social ills. Teubner sees the inherent hubris of this attitude and urges a more modest conception of law that envisions its use as a guide rather than a planning tool.

Although Teubner notes that his introduction of autopoietic theory to the study of law's interaction with society is "strictly a heuristic device,"⁵ it does offer a plausible explanation for law's current difficulty as an instrument of social control and even more importantly, it points to self regulation as a possible solution.

The value of the regulatory research by Ayres and Braithwaite is that it appears to pick up on Teubner's theoretical groundwork by offering a conception of regulation that provides a practical model for implementing reflexive legal solutions. Although nowhere in their work do they use the term reflexive law, the Ayres/Braithwaite approach to regulation seems to make use of the reflexive principles identified by Teubner. They

⁵ Gunther Teubner, Autopoietic Law: A New Approach to Law and Society (Berlin: de Gruyter, 1988) 1-11.

eschew direct regulation in favor of using law to promote a version of self regulation that has the potential to integrate the environmental with the economic.

The key lesson from examining the specific problem of the Canadian environmental law regime within the wider context of the dilemma of law in the welfare state is that regulatory approaches to policy implementation must co-evolve with systems targeted for regulation. A regulatory style appropriate to a particular time, place and interacting set of variables is not necessarily appropriate to another time, place and interacting set of variables. The evolution of society does not mean measurable, incremental and controllable change leading to a state of perfect equilibrium among all its various components. Evolution only means change and the focus for legal regulation therefore should be on responding to and adapting to change. The power to do this lies not in concepts of efficiency, but in striving for the creativity necessary to meet the challenges presented by change. The implication for the legal regulation of the environment is that adapting to change means thinking differently about the manner in which law is traditionally used to alter established patterns of human behavior. An important first step in developing a new regulatory attitude is to recognize that law alone can no longer effect lasting social change but must be refocused to enlist some of the other available mechanisms for change.

Appendix 1

March 1997: Kingston Landfill Failure

More than 300,00 litres a year of toxic liquids seep from an old industrial chemical dump into the Cataraqui River, which flows through Kingston.
(Toronto Star, March 15, 1997)

June 1997: Ontario Hydro Bruce Facility Radioactive Discharges

Fish in Lake Huron near the Bruce nuclear plant are nine times more radioactive than fish in Lake Ontario and the levels have grown worse in the last two years. Hydro's environmental sampling also showed somewhat elevated levels of radioactivity in drinking water, fruits and vegetables.

(Tom Spears, "Fish Near Bruce Plant Glow with Distinction," Toronto Star, June 21, 1997)

July 1997: Plastimet PVC Fire

A massive fire broke out at a plastics recycling operation in Hamilton. The fire burned for four days and released toxic chemicals including hydrochloric acid, carbon monoxide gases, benzene, dioxins and furans. The fire caused serious adverse effects to residents, including breathing problems, sore throats and burning eyes. Approximately 600 residents were evacuated. The company had been able to operate without a Certificate of Approval from the Ontario Ministry of the Environment because plastic waste is classified as recyclable.

July 1997: Southern Ontario Smog Alerts

The third air-quality advisory is called off after two days.

(Chad Skelton, "Ontario's Air-Quality Alert Expected to End Today," Globe and Mail, July 15, 1997)

August 1997: Ontario Hydro Tritium Leakage

Radioactive tritium from the Pickering nuclear plant has leaked into and contaminated groundwater around the site as long as 18 years ago. Despite this, the Environment Ministry only learned about the contamination at the end of July, 1997. Ontario Hydro apparently had known for 18 years that groundwater was being contaminated.

(Madhavi Acharya and Julia Glover, "Hydro Kept Mum on Radioactive Leak," Toronto Star, August 1, 1997); (James Wallace, "Leak May Have Spread to Lake," Ottawa Sun, August 6, 1997)

August 1997: York Region Sewage Spill

During a heavy rainstorm, a sewage pumping station fails and 22 million litres of untreated sewage are dumped into the Don River in Toronto. Bacteria levels in Lake Ontario are from 3 to 6 times higher than acceptable levels for swimming.

(Richard Mackie, "City May Become Toilet, Environmentalists Warn," Globe and Mail, January 22, 1998)

August 1997: Guelph Industrial Lubricant Spill

3,000 litres of industrial lubricant solution are dumped into the water supply in Guelph in August, 1997. Due to the risk posed to the public, 50,000 people are warned not to use the water.

(Jeff Grey, "Industrial Spill Sparks Fear About Guelph's Water Supply," Toronto Star, August 29, 1997)

August 1997: Ontario Hydro Fails to Disclose Information Concerning Nuclear Reactor Problems

Ontario Hydro's former chief executive, Maurice Strong, says management at the provincial utility's nuclear division acted criminally by deliberately keeping board members in the dark about its troubled reactors.

August 1997: Hamilton Park Contamination

Contaminated soil (polycyclic aromatic hydrocarbons) is found in a Hamilton park. Reports state that there is a high exposure risk if the soil surface is disturbed.

(Toronto Star, August 2, 1997)

August 1997: Bruce Nuclear Plant Heavy Water Leak

The facility was shut down due to a heavy water leak.

(Toronto Star, August 16, 1997)

November 1997: Deloro Mines Site

The site is highlighted as one of the worst hazardous waste sites in the province of Ontario given the volume of hazardous chemicals which leak from it and contaminate the surrounding environment. It is estimated that in 1996 alone, 3.27 tons of arsenic leaked from the mine into the Moira River. Other heavy metals such as cadmium and cobalt, along with radioactive material are located at the site as well.

("Environment Ministry Taken to Court Over Site," Globe and Mail, November 20, 1997)

December 1997: Brantford Tire Fire

A fire in Brantford on December 2 burns approximately 7,000 tires and leaves a film of black particles over the surrounding area. Although the owner of the site was ordered to remove the debris by December 10, no cleanup had been done by December 17. Earlier in the year (mid-October) the Ministry of the Environment had issued an order requiring the company which operated the site to reduce the number of tires to under 5,000 by December 15. As of December 16, 12,700 tires were still on site.

("Tire Yard a Mess Weeks After Fire", Globe and Mail, December 17, 1997)

January 1997: Michael Street Creek in Ottawa is Polluted

Ottawa Carleton Regional Transportation Service and one of its managers plead guilty to polluting the ground with diesel oil at the bus line's St. Laurent Boulevard yard. The charges were based on leakage of diesel oil from the underground system of tanks and pipes that fuels the buses. The Environment Ministry believes the leak happened gradually over a period beginning in 1992. Ministry investigators have never been able to estimate the number of litres of oil lost.

("Transpo, Manager Plead Guilty Over Pollution," The Ottawa Citizen, January 14, 1998)

February 1998: Crown Forest Sustainability Act Implementation Decision

The Divisional Court of Ontario declares three Northern Ontario timber-management plans of "no force and effect" because the government failed to follow provincial laws designed to sustain forests. The province is given 12 months in which to comply with the law by making the Elk Lake, Upper Spanish and Temagami plans conform with requirements of the Crown Forest Sustainability Act.

(Thomas Claridge, "Activists Win Temagami Battle," Globe and Mail, February 7, 1998)

February 1998: Ontario Hydro Failure to File Safety Improvement Plan with Atomic Energy Control Board

Hydro Chairman William Farlinger makes an unprecedented appearance before the Atomic Energy Control Board in Ottawa to explain why the utility missed a filing deadline which would have required it to file information explaining how it intends to improve operations at its Bruce B nuclear plant.

(Globe and Mail, February 19, 1998)

February 1998: Grey County Tire Dump

33,000 buried tires are reported to be leaching toxic chemicals into ground water in Georgian Bay area site which is 50 kilometers south-east of Owen Sound. Site neighbors sue the province for failure to act on the problem.

(Toronto Star, February 28, 1998)

February 1998: Etobicoke Recycling Site Fire

A fire at Ontario Material Recovery Center causes more than \$1 million in damage and requires a full day to extinguish.

(Toronto Star, February 28, 1998)

February 1998: Canadian Institute for Environmental Law and Policy Releases Report

Legal loopholes and cuts to Ontario's environmental enforcement budget are allowing polluters to dump toxic wastes into municipal sewers with impunity, and may lead to future toxic accidents such as the six day Plastimet fire in Hamilton last July. A detailed report by the Canadian Institute for Environmental Law and Policy concludes that city sewers are "the single largest way that waste generators deal with their wastes in Ontario." Each year, 380,000 tonnes end up in sewage treatment plants, which are not equipped to treat toxic chemicals. An additional 429,000 tonnes of contaminated landfill sludge are disposed of at sewage plants. There are no Ontario regulations that target pollutant discharges into sewage treatment plants.

(Paul McKay, "Toxic Wastes Flood Sewers," The Ottawa Citizen, February 17, 1998)

April 1998: Darlington Radioactive Water Leak

A station emergency is declared after a leak of approximately 100 liters of radioactive heavy water occurred in a unit shut down since April 17 for maintenance.

(Globe and Mail, April 25, 1998)

April 1998: Thomasburg Tire Fire

A fire occurs at a truck repair yard in the hamlet of Thomasburg, 40 kilometers northeast of Belleville, involving more than 1,000 tires. Thousands of liters of water contaminated with toluene and benzene flows into a nearby waterway.

(Derek Baldwin, "1,000 Tires Fuel Fire at Auto wrecker," Toronto star, April 29, 1998)

July 1998: Ontario Refuses to Keep a List of Toxic Sites

The Ontario government has no plans to keep a registry of sites contaminated by hazardous waste, despite the fallout from last summer's Plastimet fire and demands from both ends of the political spectrum. A publicly accessible list of toxic "hot spots," kept by most of the provinces and the federal Environmental Protection Agency in the United States, is unlikely to appear in Ontario. "We know where the trouble spot are" said Environment Minister Norm Sterling.

Appendix 2: Number of Federal Regulations Enacted Each Year by the Federal Government (1975-1994)

Source: Registrar of Regulations, Privy Council Office, Ottawa as of July, 1995

Appendix 3: Number of Provincial Regulations Enacted by the Province of Ontario (1975-1994)

Source: Registrar of Regulations, Office of Legislative Counsel, Government of Ontario as of July 1995

Appendix 4

Acts Administered in Whole by Environment Canada

Canada Water Act

Canada Wildlife Act/ Regulations

Canadian Environmental Assessment Act/ Regulations

Canadian Environmental Protection Act/ Regulations

Department of the Environment Act/ Regulations

Game Export Act

International River Improvements Act/ Regulations

Lac Seul Conservation Act

Lake of the Woods Control Board Act

Migratory Birds Convention Act/ Regulations

National Roundtable on the Environment and the Economy Act/ Regulations

National Wildlife Week Act

Weather Modification Information Act/ Regulations

Wild Animal and Plant Protection and Regulation of International and Interprovincial Trade Act

Other Acts Administered by Environment Canada

(A) In Part

Arctic Waters Pollution Prevention Act/ Regulations

Export and Import Permits Act/ Regulations

Fisheries Act/ Regulations

Pest Control Products Act/ Regulations

Resources and Technical Surveys Act

Transportation of Dangerous Goods Act, 1992/ Regulations

(B) Assistance to other Departments

Aeronautics Act/ Regulations

Agricultural and Rural Development Act

Canada Shipping Act/ Regulations

Energy Supplies Emergency Act

Hazardous Products Act/ Regulations

Health of Animals Act/ Regulations

International Boundary Waters Treaty Act

Motor Vehicle Safety Act/ Regulations

National Energy Board Act/ Regulations

National Housing Act/ Regulations

Territorial Lands Act/ Regulations

(C) Major Legislation of General Concern

Access to Information Act/ Regulations

Federal Real Property Act/ Regulations

Financial Administration Act/ Regulations

Privacy Act/ Regulations

Criminal Code/ Regulations

Appendix 5

Regulations and Guidelines under the Canadian Environmental Protection Act

Alberta Equivalency Order (SOR/94-752)

Asbestos Mines and Mills Release Regulations (SOR/90-341)

Benzene in Gasoline Regulations (SOR/97-493)

Chlor-Alkali Mercury Release Regulations (SOR/90-130)

Chlorobiphenyls Regulations (SOR/91-152)

Chlorofluorocarbon Regulations, 1989 (SOR/90-127)

Code of Practice for the Reduction of Chlorofluorocarbon Emissions from Refrigeration and Air Conditioning Systems

Contaminated Fuel Regulations (SOR/91-486)

Diesel Fuel Regulations (SOR/97-110)

Domestic Substances List (SOR/94-311)

Enforcement and Compliance Policy

Environmental Code of Practice for Aboveground Storage Tank Systems Containing Petroleum Products

Environmental Code of Practice for Elimination of Fluorocarbon Emissions from Refrigeration and Air Conditioning Systems

Environmental Code of Practice for Underground Storage Tank Systems Containing Petroleum Products

Environmental Code of Practice on Halons Export and Import of Hazardous waste Regulations (SOR/92-637)

Federal Aboveground Storage Tank Technical Guidelines

Federal Mobile PCB Treatment and Destruction Regulations (SOR/90-5)

Federal Underground Storage Tank Technical Guidelines

Fuels Information Regulation No. 1 (C.R.C., c. 407)

Gasoline Regulations (SOR/90-247)

Guidelines for Submission under Section 17 of the Canadian Environmental Protection Act

List of Hazardous Waste Authorities (SOR/92-636)

List of Toxic Substances Authorities (SOR/94-162)

Masked Name Regulations (SOR/94-261)

Mirex Regulations, 1989 (SOR/90-126)

National Emission Guidelines for Stationary Combustion Turbines

New Substance Notification Regulations (SOR/94-260)

Notice With Respect to Substances in the National Pollutant Release Inventory for 1997

Ocean Dumping Regulations, 1988 (SOR/89-500)

Ozone-depleting Substances Products Regulations (SOR/95-584)

Ozone-depleting Substances Regulations (SOR/89-500)

PCB Waste Export Regulations, 1996 (SOR/97-109)

Phosphorus Concentration Regulations (SOR/89-501)

Polybrominated Biphenyls Regulations, 1989 (SOR/90-129)

Polychlorinated Terphenyls Regulations, 1989 (SOR/90-128)

Prohibition of Certain Toxic Substances Regulations (SOR/96-237)

Pulp and Paper Mill Defoamer and Wood Chip Regulations (SOR/92-268)

Pulp and Paper Mill Effluent Chlorinated Dioxins and Furans Regulations (SOR/92-267)

Registration of Storage Tank systems for Petroleum Products and Allied Petroleum Products (SOR/97-10)

Reporting for the Domestic Substances List

Secondary Lead Smelter Release Regulations (SOR/91-155)

Storage of PCB Material Regulations (SOR/92-507)

Toxic Substances Export Notification Regulations (SOR/92-634)

Toxic Substances Management Policy

Toxic Substances Management Policy : Persistence and Bioaccumulation Criteria

Toxic Substances Management Policy : Report on Public Consultations

Vinyl Chloride Release Regulations, 1992 (SOR/92-631)

REFERENCES

- Ayres, Ian and John Braithwaite (1992)
Responsive Regulation: Transcending the Deregulation Debate Oxford University Press, New York
- Avery, Bryant and Rod Ziegler (1998)
“Alberta Company Buys Right To Pollute” The Ottawa Citizen, Ottawa
- Bach, Julie S. and Lynn Hall (1986)
The Environmental Crisis, Opposing Viewpoints Greenhaven Press, St. Paul
- Baumol, William J. and Wallace E. Oates (1975)
The Theory of Environmental Policy Prentice-Hall Inc., Englewood Cliffs
- Beauchesne, Eric (1998)
“Kyoto Commitment Will Hurt GDP: Study” The Ottawa Citizen, Ottawa
- Benidickson, Jamie (1992)
“Environmental Law Survey (1980-92), Part I ” 24 University of Ottawa Law Review 733
- Benidickson, Jamie, and G. Bruce Doern, Nancy Olewier (1994)
Getting the Green Light: Environmental Regulation and Investment in Canada C.D. Howe Institute, Toronto
- Bernier, Ivan and Andree Lajoie (eds.) (1985)
Consumer Protection, Environmental Law and Corporate Power University of Toronto Press, Toronto
- Black, Shannon (1998)
“Ontario Making Pollution Worse: Critics” The Ottawa Citizen, Ottawa
- Boyle, A.E. (ed.) (1994)
Environmental Regulation and Economic Growth Clarendon Press, Oxford
- Bozinoff, Lorne and Andree Turcotte (1993)
“Buying Green Remains Popular” The Gallup Report Gallup Canada Inc., Toronto
- Cairncross, Frances (1992)
Costing the Earth: The Challenge for Governments - The Opportunities for Business Harvard Business School Press, Boston

- Canadian Bar Association Committee on Sustainable Development (1990)
Sustainable Development in Canada: Options for the Future Canadian Bar Association, Ottawa
- Caputo, Tullio, and Mark Kennedy, Charles E. Reasons, Augustine Brannigan (eds.) (1989)
Law and Society: A Critical Perspective Harcourt Brace Jovanovich, Toronto
- Carson, Rachel (1962)
Silent Spring Houghton, Mifflin, Boston
- Coase, R.H. (1960)
 "The Problem of Social Cost" 3 Journal of Law and Economics 1
- Cohen, Jean L. and Andrew Arato (1992)
Civil Society and Political Theory The MIT Press, Cambridge
- Commoner, Barry (1971)
The Closing Circle Alfred Knopf, New York
- Cook, Brian J. (1988)
Bureaucratic Politics and Regulatory Reform Greenwood Press, Westport
- Cook, Gail and Woods, Gordon Management Consultants (1981)
Cost of Compliance Study: The Impact of Government Regulation on Business
 Economic Council of Canada, Ottawa
- Cote, Raymond and Dawn Russell, David VanderZwaag (eds.) (1988)
Law and The Environment: Problems of Risk and Uncertainty Canadian Institute for the Administration of Justice, Montreal
- Cotterrell, Roger (1992)
The Sociology of Law Butterworth's, London
- Daniels, Ronald J. and Susan M. Hutton (1993)
 "The Capricious Cushion: The Implications of the Directors' and Officers' Insurance Liability Crisis on Canadian Corporate Governance" 22 Canadian Business Law Journal 182-130
- Daniels, Ronald J. (1994)
 "Must Boards Go Overboard? An Economic Analysis of the Effects of Burgeoning Statutory Liability on the Role of Directors in Corporate Governance" 24 Canadian Business Law Journal 229-258

- De Greene, Kenyon B. (ed.) (1993)
A Systems-Based Approach to Policymaking Kluwer Academic Publishers, Boston
- Demsetz, Harold (1967)
 "Toward a Theory of Property Rights" 57 American Economic Review 347
- Deweese, Donald N. (ed.) (1983)
The Regulation of Quality Butterworths, Toronto
- Deweese, Donald (1993)
Reducing the Burden of Environmental Regulation School of Policy Studies, Queen's University, Kingston
- Doern, G. Bruce (1990)
The Environmental Imperative: Market Approaches to the Greening of Canada C.D. Howe Institute, Toronto
- Doern, G. Bruce (ed.) (1990)
Getting It Green: Case Studies in Canadian Environmental Regulation McGraw-Hill, Ryerson Limited, Scarborough
- Duffy, Andrew (1998)
 "Hydro Eyes Landfill Air Pollution Credits - Talks Under Way With Municipalities To Help Offset Its Greenhouse Gas Emissions" The Ottawa Citizen, Ottawa
- Economic Council of Canada (1979)
Responsible Regulation Supply and Services Canada, Ottawa
- Emond, Paul (1972)
 "The Case for a Greater Federal Role in the Environmental Protection Field: An Examination of the Pollution Problem in the Constitution" 10 Osgoode Hall Law Journal 647
- Emond, D.P. (1985)
 "Environmental Law and Policy: A Retrospective Examination of the Canadian Experience" in Bernier, Ivan and Andree Lajoie (eds.) Consumer Protection, Environmental Law and Corporate Power University of Toronto Press, Toronto
- Enman, Charles (1997)
 "Canada 'Outspews' the U.S. - Average Plant Here Pollutes Twice As Much" The Ottawa Citizen, Ottawa

- Environment Canada (1994)
Pollution Prevention Ministry of Supply and Services, Ottawa
- Environment Canada (1994)
Reviewing the Canadian Environmental Protection Act. - The Issues #8
 Environment Canada, Hull
- Environment Canada (1997)
Environmental Choice (M) Program Environment Canada, Ottawa
- Environment Canada (1997)
Environmental Leaders 2, Voluntary Action on Toxic Substances Ministry of
 Public Works and Government Services Canada, Ottawa
- Environment Canada (1998)
Science and The Environment Bulletin January, 1998 Environment Canada, Hull
- Environment Canada (1998)
Science and The Environment Bulletin June, 1998 Environment Canada, Hull
- Environmental Policy Unit, School of Policy Studies, Queen's University (1996)
Lessons Learned From A.R.E.T.: A Qualitative Survey of Perceptions of
 Stakeholders Queen's University, Kingston
- Estrin, David and John Swaigen, Mary Anne Carswell (1993)
Environment on Trial: A Guide to Ontario Environmental Law and Policy Emond
 Montgomery Publications, Toronto
- Finkle, Peter Z.R. and Alastair R. Lucas (eds.) (1982)
Environmental Law in the 1980s: A New Beginning Canadian Institute of
 Resources Law, Calgary
- Fredericks, Isis and David McCallum (1995)
International Standards For Environmental Management Systems: ISO 14000
 MGMT Alliances Inc., Toronto
- Gaines, Sanford E. and Richard A. Westin (eds.) (1991)
Taxation for Environmental Protection Quorum Books, Westport
- Glasbeek, H. J. (1995)
 "More Direct Director Responsibility: Much Ado About...What?" 25 Canadian
 Business Law Journal 416

- Gibson, Dale (1973)
 “Constitutional Jurisdiction Over Environmental Management in Canada” 23
University of Toronto Law Journal 54
- Habermas, Jurgen (1975)
Legitimation Crisis Beacon Press, Boston
- Hodge, Tony and Susan Holtz, Cameron Smith, Kelly Hawke Baxter (eds.) (1995)
Pathways To Sustainability: Assessing Our Progress National Roundtable On The
 Environment And The Economy, Ottawa
- Hood, Christopher C. (1983)
The Tools of Government Macmillan, London
- Hopt, K.J. and Gunther Teubner (eds.) (1985)
Corporate Governance and Directors Liability Walter de Gruyter, Berlin
- Howse, Robert (1993)
 “Retrenchment, Reform or Revolution? The Shift to Incentives and the Future of
 the Regulatory State” 31 Alberta Law Review 464-492
- Hughes, Elaine L. (1992)
 “Government Response to Environmental Issues: Institutional Inadequacies and
 Capacity for Change” 1 Journal of Environmental Law and Protection 55
- Industry Canada (1993)
Working Group Report on Directors’ Liability Queen’s Printer, Ottawa
- Industry Canada (1995)
Canada Business Corporations Act, Discussion Paper on Directors’ Liability
 Industry Canada, Ottawa
- Insight Canada Research (1996)
National Public Opinion Survey of Current Environmental Issues Insight Canada
 Research, Ottawa
- Insight Press (1991)
Corporate Directors on the Firing Line Insight Press, Mississauga
- Jones L.R. and John H. Baldwin (1994)
Corporate Environmental Policy and Government Regulation Jai Press Inc.
 London
- KMPG (1994)
1994 Canadian Environmental Survey KMPG, Ottawa

- KMPG (1996)
1996 Canadian Environmental Survey KMPG, Ottawa
- Kaplan, Marilyn R. and J. Richard Harrison (1993)
 “Defusing the Liability Crisis; The Strategic Management of Legal Threats”
 Volume 4, Number 3 Organization Science 412
- Kirkey, Sharon (1997)
 “Hydro Admits Lack of Respect for Environment” The Ottawa Citizen, Ottawa
- Kneese, Allen V. and Charles L. Schultze (1975)
Pollution, Prices and Public Policy The Brookings Institution, Washington
- Korten, David E. (1995)
Environmental Regulation and Economic Growth Clarendon Press, Oxford
- Lindgren, Richard D. and Donna Bigelow (1996)
Overview of Federal Law, Regulation and Policy Canadian Environmental Law Association, Toronto
- Luhmann, Niklas (1978)
The Differentiation of Society Columbia University Press, New York
- Majtenyi, Cathy (1994)
Guide to Environmental Legislation in Ontario Southam Information and Technology Group, Don Mills
- McLeod, Roderick M. (1992)
 “Key Environmental Issues for the 1990s and Beyond in Canada” 18 Canada-United States Law Journal 23.
- Mihlar, Fazil (1996)
Regulatory Overkill: The Cost of Regulation in Canada The Fraser Institute, Vancouver
- Miller, Doug (1996)
Whither Environment? Public and Expert Opinion Projected to 2010 Synergistics Consulting, Toronto
- Ministry of Finance (1986)
Final Report of the Ontario Task Force on Insurance Queen’s Printer, Toronto

- Monasinghe, Mohan (1993)
Environmental Economics and Sustainable Development, World Bank Paper #3
 World Bank, Washington
- Nonet, Phillipe and Philip Selznick (1978)
Law and Society In Transition: Toward Responsive Law Harper, New York
- Norrie, Kenneth and Douglas Owram (1991)
History of the Canadian Economy Harcourt Brace Jovanovich Canada Inc.,
 Toronto
- Ontario Ministry of Consumer and Commercial Relations (1996)
Interim Report of the Red Tape Review Commission Ministry of Consumer and
 Commercial Relations, Toronto
- Ontario Ministry of Energy and the Environment (1991)
Offenses Against the Environment Ontario Ministry of Energy and the
 Environment, Toronto
- Ontario Ministry of Energy and the Environment (1992)
Offenses Against the Environment Ontario Ministry of Energy and the
 Environment, Toronto
- Ontario Ministry of the Environment (1992)
Report of the Task Force on the Ontario Environmental Bill of Rights Queen's
 Printer, Toronto
- Ontario Ministry of Energy and the Environment (1993)
Offenses Against the Environment Ontario Ministry of Energy and the
 Environment, Toronto
- Ontario Ministry of the Environment (1996)
Responsive Environmental Protection Queen's Printer, Toronto
- Ontario Ministry of the Environment (1998)
Ontario Ministry of the Environment, Business Plan 1998-1999 Ontario Ministry
 of the Environment, Toronto
- Ontario Ministry of Financial Institutions (1986)
Final Report of the Ontario Task Force on Insurance Queen's Printer, Toronto
- Ontario Round Table on Environment and Economy (1992)
Restructuring For Sustainability, Strategic Direction 1: Greening Ontario's
 Economy Ontario Round Table on Environment and Economy, Toronto

- Organization For Economic Cooperation and Development (1985)
Environment and Economics Organization For Economic Cooperation and Development, Paris
- Organization For Economic Cooperation and Development (1989)
Economic Instruments for Environmental Protection Organization For Economic Cooperation and Development, Paris
- Orts, Eric W. (1995)
 "Reflexive Environmental Law" 89 Northwestern University Law Review 1227
- Pal, Leslie A. (1987)
Public Policy Analysis Methuen, Toronto
- Pearse, Peter (1988)
 "Property Rights and the Development of Natural Resources in Canada" 14 Canadian Public Policy 307
- Percival, Robert V. and Dorothy C. Alevizatos (eds.)
Law and The Environment Temple University Press, Philadelphia
- Phyper, John-David and Brett Ibbotson (1991)
The Handbook of Environmental Compliance in Ontario McGraw-Hill Ryerson, Toronto
- Pigou, A.C. (1962)
The Economics of Welfare MacMillan, London
- Portney, Kent E. (1992)
Controversial Issues in Environmental Policy Sage Publications, Newbury Park, California
- Postner, Harry H. (1992)
Tradable Rights Approach to Environmental Policy Economic Council of Canada, Ottawa
- Prethus, Robert (1973)
Elite Accomodation in Canadian Politics MacMillan, Toronto
- Reich, Norbert (1988)
Reflexive Law and Reflexive Legal Theory: Reflections on Postmodernism in Legal Theory University of Bremen, Bremen

- Revesz, Richard L. (1997)
Foundations of Environmental Law and Policy Oxford University Press, New York
- Rose, Carol M. (1991)
 "Rethinking Environmental Controls: Management Strategies for Common Resources" 1 Duke Law Journal, 1
- Rowat, Donald C. (ed.) (1989)
Canada and the Crisis of Environmental Destruction Carleton University Department of Political Science, Ottawa
- Rubec, Clayton (1997)
Ecological Gifts, Implementing Provisions of the Income Tax Act of Canada Environment Canada, Ottawa
- Saxe, Diane (1989)
 "Fines Go Up Dramatically in Environmental Cases" 3 Environmental Law Reports (New Series) 104
- Saxe, Dianne (1990)
Environmental Offenses, Corporate Responsibility and Executive Liability Canada Law Book, Aurora
- Saunders, J. Owen (ed.) (1990)
The Legal Challenge of Sustainable Development Canadian Institute of Resource Law, Calgary
- Schrecker, T.F. (1984)
Political Economy of Environmental Hazards Ministry of Supply and Services, Ottawa
- Schrecker, Ted (1993)
Sustainable Development: Getting There From Here National Round Table on the Environment and the Economy, Ottawa
- Sigler Jay. A. and Joseph E. Murphy (1988)
Interactive Corporate Compliance Quorum Books, Westport
- Silver, Thea, and Ian C. Attridge, Maria McCrae, Kenneth W. Cox (1995)
Canadian Legislation for Conservation Covenants, Easements and Servitudes North American Wetlands Conservation Council, Ottawa

- Sims, W.A. and J.B. Smith (1983)
Impact of Environmental Regulation on Productivity Economic Council of
 Canada, Ottawa
- Smith, Helen Lawton and Nick Woodward (eds.) (1996)
Energy and Environment Regulation MacMillan Press Ltd., London
- Smith, Zachary A. (1992)
The Environmental Policy Paradox Prentice Hall, Englewood Cliffs, New Jersey
- Spears, Tom (1995)
 "Ontario Losing War On Smog, Report Says 2% Increase Noted In Last 10
 Years" The Ottawa Citizen, Ottawa
- Spears, Tom (1996)
 "Hazed And Confused, We're On Smog Alert" The Ottawa Citizen, Ottawa
- Spears, Tom (1997)
 "The Friday Group, Industry Associations Take Aim at Environmental
 Regulation" The Ottawa Citizen, Ottawa
- Spears, Tom (1998)
 "Smog Smothers Ontario, Air Pollution Readings Skyrocket in Capital" The
 Ottawa Citizen, Ottawa
- Standing Committee on Environment and Sustainable Development (1995)
It's About Our Health! Towards Pollution Prevention Canada Communications
 Group, Ottawa
- Standing Senate Committee on Banking, Trade and Commerce (1996)
Corporate Governance Queen's Printer, Ottawa
- Stavins, Robert N. and Bradley W. Whitehead (1992)
 "Dealing With Pollution" in Environment Volume 34, Number 7, 7-42, Heldref
 Publications, Washington
- Stigler, George J. (1975)
The Citizen and the State University of Chicago Press, Chicago
- Swaigen, John (1995)
Regulatory Offenses in Canada, Liability and Defenses Carswell Thomson
 Professional Publishing, Toronto

- Swanson, Elizabeth J. and Elaine L. Hughes (1990)
The Price of Pollution, Environmental Litigation in Canada Environmental Law Centre (Alberta) Society, Edmonton
- Tavender, E. David, and Catherine M. Poyen, Donna M. Hallett (1993)
 "Developments in Corporate Liability: Is the Sky the Limit?" 22 Canadian Business Law Journal 258
- Teubner, Gunther (1983)
 "Substantive and Reflexive Elements in Modern Law" 17 Law and Society Review 239
- Teubner, Gunther (ed.) (1986)
Dilemmas of Law in the Welfare State Walter de Gruyter, New York
- Teubner, Gunther (ed.) (1987)
Juridification of Social Spheres Walter de Gruyter, New York
- Teubner, Gunther (ed.) (1988)
Autopoietic Law: A New Approach to Law and Society Walter de Gruyter, New York
- Teubner, Gunther (1993)
 "The 'State' of Private Networks: The Emerging Legal Regime of Polycorporatism in Germany" Brigham University Law Review 553
- Teubner, Gunther (1993)
Law As An Autopoietic System Blackwell Publishers, Oxford
- Teubner, Gunther and Lindsay Farmer, Declan Murphy (eds.) (1994)
Environmental Law and Ecological Responsibility: The Concept and Practice of Ecological Self-Organization John Wiley & Sons, Rexdale
- Thompson, Andrew R. (1980)
Environmental Regulation in Canada: An Assessment of the Regulatory Process Westwater Research Centre, Vancouver
- Thompson, Geoffrey and Moira L. McConnell, Lynne B. Huertis (eds.) (1993)
Environmental Law and Business in Canada Canada Law Book Inc., Aurora
- Tingley, Donna (ed.) (1990)
Into The Future: Environmental Law and Policy for the 1990s Environmental Law Centre (Alberta) Society, Calgary

- Toronto Stock Exchange (1994)
Report of the Committee on Corporate Governance Toronto Stock Exchange,
 Toronto
- Trebilcock, Michael J. and Douglas G. Hartle, J. Robert S. Pritchard, Donald W. Dewees
 (1992)
The Choice of Governing Instrument Supply and Services Canada, Ottawa
- VanderZwaag, David (1995)
Canada and Marine Environmental Protection Kluwer Law International,
 Cornwall
- Wallace, David (1995)
Environmental Policy and Industrial Innovation, Strategies in Europe, the U.S.A.
 and Japan Earthscan Publications Ltd., London
- Ward, Barbara and Rene Dubois (1972)
Only One Earth W. Norton, New York
- Waste Reduction Information Services (1995)
Recycling Trends in Ontario Recycling Council of Ontario, Toronto
- Webb, Kernaghan (1988)
Pollution Control in Canada: The Regulatory Approach in the 1980s Law Reform
 Commission of Canada, Ottawa
- Wells, Donald T. (1997)
Environmental Policy Prentice-Hall Inc. Upper Saddle River, New Jersey
- Wood, Dennis H. (ed.) (1994)
 McCarthy, Tetreault Annotated Ontario Environmental Statutes and Regulations
 Carswell, Toronto
- World Commission on Environment and Development (1987)
Our Common Future Oxford University Press, Oxford
- Wrobel, Marion G. (1990)
Environmental Problems: Market Based Solutions Queen's Printer, Ottawa
- Younis, Talib (ed.) (1990)
Implementation in Public Policy Dartmouth Publishing Company, Aldershot

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